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Vol. 89

JANUARY, 1949

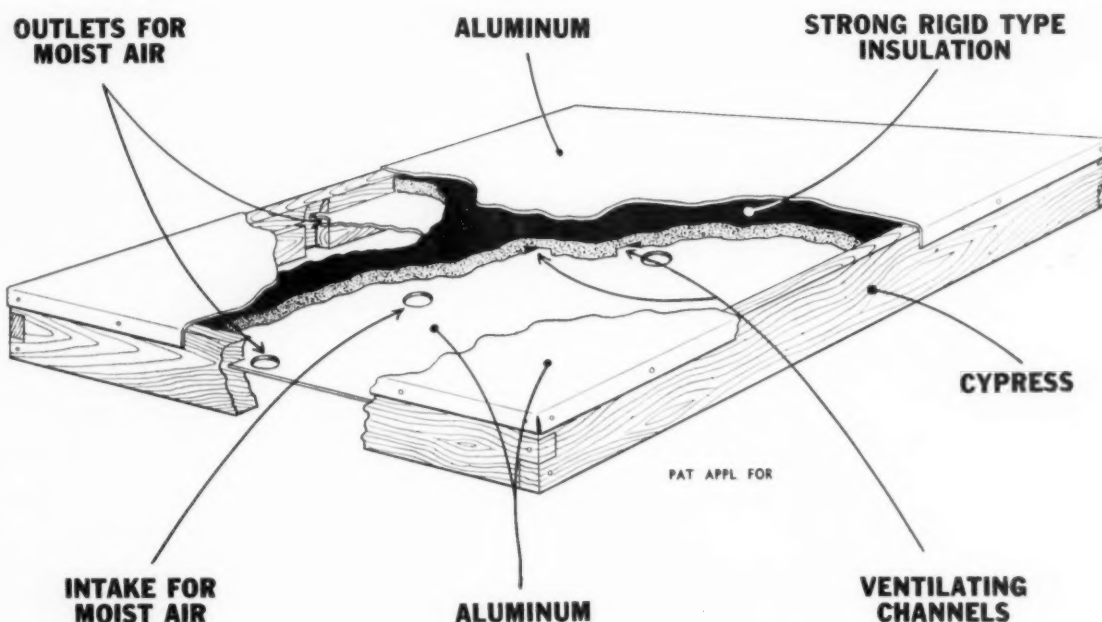
No. 1

AMERICAN BEE JOURNAL

R. v. 89 1949  
We proudly present the

## *New "All-Weather" Cover*

—a DURABILT Product



### VENTILATION AND INSULATION

- Keeps the hive warmer in winter and cooler in summer
- Eliminates harmful moisture from the hive
- Lessens the need for excessive winter packing
- According to leading authorities, tends to eliminate Nosema

Optional as standard equipment at no EXTRA CHARGE when purchased with complete hives. Order early as quantity will be limited at first

# BABCOCK HONEY CO.

P. O. BOX 126

COLUMBIA 5, SOUTH CAROLINA

H. I.



**ONE SELECT YOUNG ITALIAN QUEEN FOR EVERY \$5.00  
WORTH OF DURABILT EQUIPMENT BOUGHT IN JANUARY**

These queens which normally sell for \$1.00 or more, will be mailed free of all charges anytime after May 25th. Early orders help us prevent a "Spring Rush" and some fine young queens will put your bees in better shape.

**OUR FACTORY TO YOU PRICES WILL SAVE YOU MONEY**

**"ALL-WEATHER" COVERS \$1.95 5 for \$8.80**  
Single . . . . .

**STANDARD METAL COVERS**, telescoping on all four sides, complete with nails and metal, 5 for . . . **7.45**

**BOTTOM BOARDS**, standard reversible type, made from 100 per cent pure cypress, 5 for . . . **5.45**

**HIVE BODIES**, empty, complete with frame rests and hand holds on four sides, 5 for . . . **6.95**

**Hive Bodies**, complete with ten standard brood frames, 5 for . . . **12.50**

**SHALLOW EXTRACTING SUPERS**, complete with wedge top bar frames, 5 for . . . **9.25**

**With grooved top bar frames,**  
5 for . . . **8.35**

**STANDARD TEN FRAME HIVES**, complete with telescoping metal cover or "All-Weather" cover, hive body, bottom board, and ten standard brood frames, divided bottom bars. Single . **5.85** 5 for **25.40**

"All-Weather" Covers optional at no extra charge with complete hives only. All equipment furnished in ten frame size unless ordered otherwise.

**WRITE FOR COMPLETE PRICE LIST OF DURABILT EQUIPMENT.**

## **POLLEN—100% Pure; Not a Mixture**

When you buy this you get the real stuff, trapped with pollen traps from our own bees

Recommended by leading authorities, pollen cakes made with a mixture of pollen, soy bean flour and sugar syrup or honey give excellent results in the rapid building up of package bees and overwintered colonies.

According to the formula used by the U. S. Bee Culture Laboratory at Madison, Wisconsin, four lbs. of dry pollen when properly mixed will make fifty one-lb. cakes of pollen supplement. Under normal conditions, three to five cakes are used per colony.

Our pollen is thoroughly dried and fumigated and will keep indefinitely. We strongly recommend that the beekeeper mix his own cakes with real pollen in preference to using some unknown mixture. Directions for mixing are included with each shipment.

Orders will be accepted and shipped in the order received. No shipments will be made before March. Order early, as the supply will be limited.

Shipment will be by Parcel Post. Please include postage.

One pound of pure pollen, shipping weight 1½ lbs. . . . \$ 1.30

Five pounds of pure pollen, shipping weight, 6 lbs. . . . 5.75

Ten pounds of pure pollen, shipping weight 11½ lbs. . . . 10.00

**BABCOCK HONEY COMPANY**  
**COLUMBIA 5, S. C. P. O. Box 126**

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January, 1949

Volume 89, Number 1

## The American Bee Journal

HAMILTON, ILLINOIS

Managing Editor—G. H. Cale

Associate Editors—M. G. Dadant, Frank C. Pellett, Roy A. Grout

Published monthly at Hamilton, Illinois. Entered as second class matter at the Postoffice Hamilton, Illinois: In United States, Canada and Mexico, \$2.00 a year; two years \$3.00; three years \$4.00. Foreign \$2.25 a year; two years \$3.50; three years \$4.75; Subscription stopped at expiration printed on wrapper.

### FOR 1949 YOU WANT YOUNG HIGHEST PRIME QUALITY PACKAGE BEES AND QUEENS

Our droneless packages and  
young queens satisfy

Improved strain of three-banded Italians backed by over 25 years; careful selecting, breeding, and shipping to all points in U. S. A. and Canada. Our breeding and mating stock is carefully picked and tested out for the coming season each year from hundreds of best-by-test colonies, which gives you benefit of each season's improvements when buying from us.

We are booking orders for the season of 1949, plan your requirements for this coming season and place your order early, we are working each day from now on to fill your orders promptly with the very best of QUALITY by test, let us know of your 1949 requirements.

#### 1949 PRICES

ORDERS BOOKED 20% DOWN PAYMENT, BALANCE  
DUE 10 DAYS BEFORE SHIPMENT

	Queen	2-lb. with Queen	3-lb. with Queen	4-lb. with Queen	5-lb. with Queen
1-24	\$1.40	\$4.50	\$5.60	\$6.70	\$7.80
25-99	1.30	4.25	5.30	6.35	7.40
100-up	1.20	4.00	5.00	6.00	7.00

Queenless packages deduct the price of queen.

#### H. A. FARMER APIARIES

Cottonwood, Alabama : Phone 2582  
TELEGRAPH AND EXPRESS OFFICE,  
DOTHAN, ALABAMA



To Our  
Friends and Customers  
we wish to extend  
A Happy New Year  
Greetings

and

Our Sincere Appreciation  
for Their Patronage

### AUGUST LOTZ COMPANY

MANUFACTURERS AND DEALERS IN  
BEE SUPPLIES

Boyd,

Wisconsin



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1896-1949

WE HOPE YOU HAVE HAD A  
VERY ENJOYABLE CHRISTMAS

WE WISH TO EXPRESS AT THIS  
TIME OUR SINCERE WISHES FOR A  
VERY HAPPY AND PROSPEROUS  
1949 TO ALL OUR FRIENDS  
AND CUSTOMERS

We have appreciated and enjoyed your  
patronage and our wish for 1949 is that we  
may be privileged to serve you again this  
coming year.

**MARSHFIELD MFG. CO., Inc.**  
**MARSHFIELD, WISCONSIN**

(The heart of America's Dairyland)

Manufacturers of beekeepers supplies. Write for  
our 1949 catalog and prices.



ANNOUNCING

1949 Prices on

## Package BEES

Due to continued increase in costs of all  
supplies and other items necessary to the  
production of PACKAGE BEES, there will  
be no change in price. Even though costs  
are up we are offering those same HIGH  
QUALITY packages at the same price as  
last year, as follows:

2-lb. with young laying queen ..... \$4.00  
3-lb. with young laying queen ..... 5.00

We hope to ship a few one frame NUCLEI  
this season. If you are interested in this  
type package write us.

"They Produce"

**Rossman & Long**

P. O. BOX 133

MOULTRIE, GA.

## ● Rich's Leather Italian, Caucasian and Disease Resistant Bees ●

LIVE DELIVERY GUARANTEED ON EVERY SHIPMENT

PRICES ON LEATHER ITALIANS AND CAUCASIAN BEES

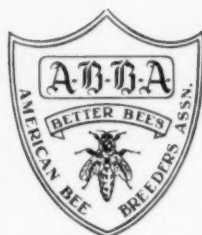
	Queens	2-Lb.	3-Lb.	4-Lb.
1-24 -----	\$1.30	\$4.25	\$5.30	\$6.35
25-99 -----	1.20	4.00	5.00	6.00
100-up -----	1.10	3.75	4.70	5.65

Please include 10% deposit with order.

Prices of D. R. stock will be published at a later date.

THE RICH HONEY FARMS

Jeanerette, La.



## STOVER'S BEES

MAKE 1949 A SUCCESSFUL YEAR BY STARTING THE  
SEASON RIGHT WITH STOVER BEES  
(You Must Be Satisfied)

### ITALIANS OR CAUCASIANS

#### PRICES

Lots of	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24 -----	\$1.40	\$4.50	\$5.60	\$6.70	\$7.80
25-99 -----	1.30	4.25	5.30	6.35	7.40
100-up -----	1.20	4.00	5.00	6.00	7.00

#### Packages with Queens

Queens Air Mailed and/or Clipped at No Extra Cost.

Tested Queens Twice the Price of Untested.

For Queenless Package Deduct Price of Queen

Book Your Order Now—and get the shipping date that you want. No deposit required.  
no obligation on your part.

## The Stover Apiaries : : Mayhew, Miss.

### PURE CAUCASIAN BEES AND QUEENS

—We Are Now Booking Orders For 1949

Due to the wonderful reception of our Caucasian Branch and many reports of extremely prolific and heavy honey producing queens and bees, we have increased and improved our Caucasian Branch to better supply the increased demand. With our increased output, we will be able to take care of all orders promptly but, book your orders early to be assured of choice shipping dates. We give special discount on large orders.

LOTS 1-10	
2-lb. package with queen -----	\$4.40
3-lb. package with queen -----	5.50
QUEENS (each) -----	1.35

Health certificate furnished with each shipment and live delivery guaranteed.

PINE BLUFF BEE FARMS

(Caucasian Branch—  
Jesse E. Gooch & Sons)

Route 3, Pine Bluff, Arkansas



AN ADEQUATE SUPPLY OF DADANT'S CRIMP-WIRED  
FOUNDATION will assure you fine combs. You are protected  
too, when you know it is made of pure beeswax.

DADANT & SONS  
MANUFACTURERS  
HAMILTON, ILLINOIS

**Quality Italian Queens,  
Package Bees**

Order early for preferred shipping dates.

**George Lott Apiaries**

Route No. 2, Baton Rouge, La.

**RED STICK APIARIES  
& CO.**

Member Louisiana Retailers  
Association

Main Office, 113 Lee Avenue,  
Donaldsonville, Louisiana

2-LB. PACKAGE .....\$4.25  
3-LB. PACKAGE ..... 5.25  
QUEENS \$1.25 A PIECE  
DISEASE RESISTANT  
QUEENS \$1.25

Now open for 1949 season bookings.  
Telegraph: Western Union

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FEATURE ARTICLES—NEWS ITEMS  
MONTHLY TALKS TO BEEKEEPERS

Subscription Rate  
1 year, \$2.00; 2 years, \$3.00; 3 years, \$4.00  
in United States and Canada.

**THE A. I. ROOT CO.**  
MEDINA, OHIO

**N. GAUTHIER BEE CO.**

Italian Queens and Package Bees

We are now booking orders for 1949 delivery, only 20% with order, balance 10 days before shipping date. Guarantee live arrival and health certificate with each shipment. Our shipping date opens April 10th. Prices follow—2-lb. pkgs. and queen, \$4; 3-lb. pkgs. and queens, \$5.

N. Gauthier Bee Co., Hessmer, La.

**QUALITY THREE-BANDED ITALIAN  
PACKAGE BEES AND QUEENS FOR 1949**

New and improved package delivers bees in better condition. Prices are right. A member of The American Bee Breeders Association.

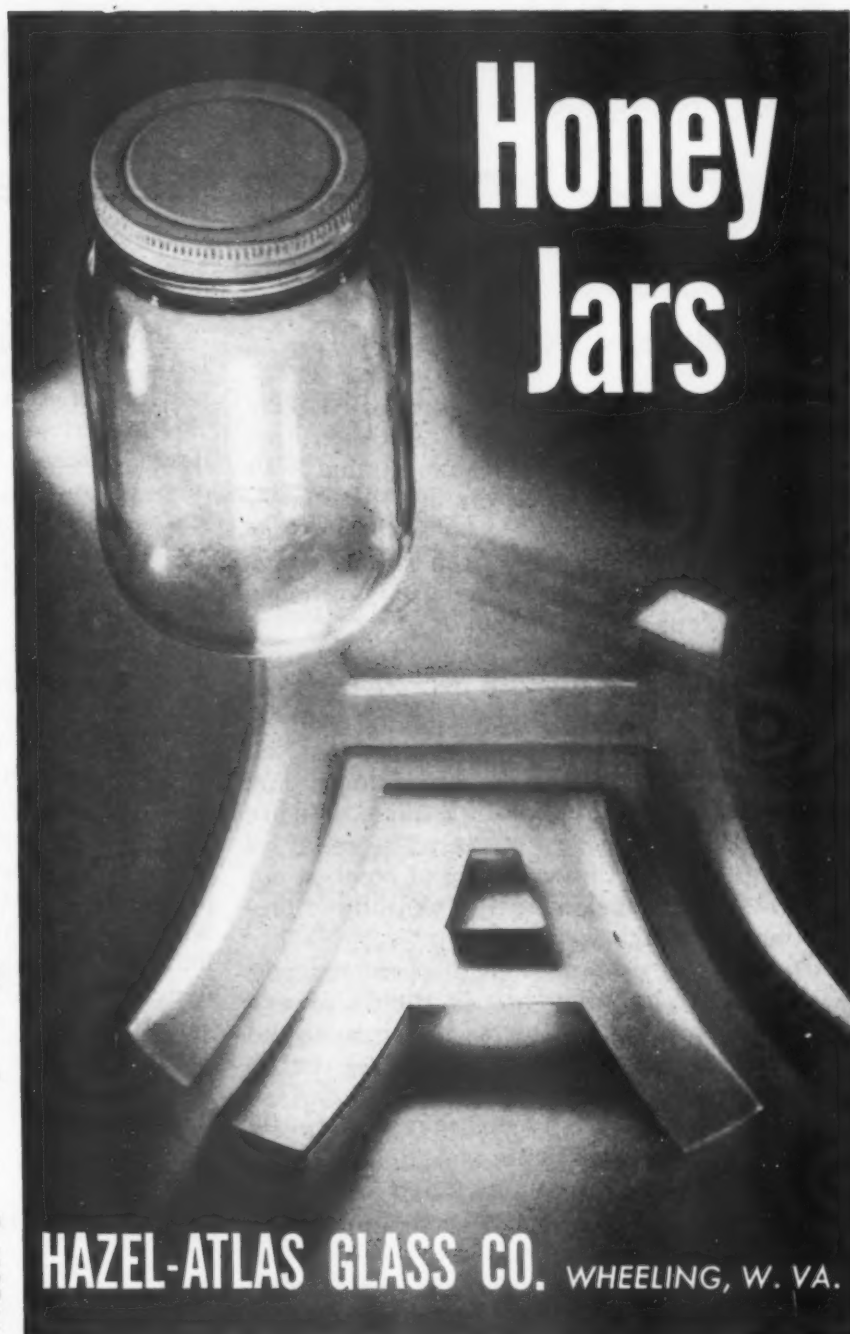
**COTTAGE HILL APIARIES**

RT. 2, BOX 64 MOBILE, ALA.

**WHITE PINE BEE FARMS**

Jason B. Hollopeter, Rockton, Pa.  
NORTHERN BREEDERS OF  
Hardy, Honey Gathering Stock

Now booking orders for season  
which opens May 20, 1949



# Honey Jars

**HAZEL-ATLAS GLASS CO. WHEELING, W. VA.**

**BETTER BEES**

An entirely new type Queenbee for 1949—Six generations of controlled instrumental mating and careful research work has gone into the production of these Northern bred pure all Italian hybrids. Progeny tested for uniformity of better honey production, easy to handle, resistant to the foulbroods and other valuable qualities under standard commercial Apiary operations.

Shipments start April 1st. We have just a few packages headed by these queens left. PRICES:

QUEENS—1-24, \$1.65 25-99, \$1.55 100 up, \$1.40

**WICHT APIARIES, 406 Miller Street, Hattiesburg, Miss.**

**You get the results you want from an ad in the A-B-J**





# • As We

## Happy New Year

WE EXTEND THE FAMILIAR SALUTATION well knowing that many beekeepers are far from enjoying a happy frame of mind. We have heard from many readers in recent weeks who had failed to harvest a crop the past season and from others who have been keenly disappointed with the low prices prevailing for honey in the markets.

On the other hand we have had letters from the war torn countries which indicate that ours is indeed a very happy and fortunate position. We are all well fed while correspondents tell us that millions of children are hungry and suffering from malnutrition in Europe. We are warm and comfortably housed while many of them are living in the wreckage of bombed out homes without sufficient fuel or clothing to protect them from the weather.

After reading letters from dispossessed persons who have lost their homes, their business, even their clothing and worse being separated from their loved ones and friends, we realize that we in America are fortunate indeed.

In reviewing the past we find that periodically there have been crop failures and low prices but these have been temporary and soon prosperity has returned to the beekeeping industry. The problems that confront us are but a challenge to greater effort. America is a favored land and millions of old world people would give all they possess just for the privilege of coming here to begin again.

The more carefully we review the field the more confident we become that it should be indeed a "HAPPY NEW YEAR."

## At Last—An Overall Organization

JOHN FLETCHER, THE ENGLISH DRAMATIST, is reported to have said, "He that will use all winds must shift his sail." This fittingly describes what the bee and honey industry did

in the annual meeting of the Federation in St. Louis when it launched the Federation with a new set of sails known as the Constitution of The American Beekeeping Federation. The new Constitution brings to the beekeeping industry a much closer relationship between local, state, and national organizations. It makes the Federation an overall organization to represent fairly and impartially all phases of the bee and honey industry—the honey producers, the queen rearers, the package-bee shippers, the honey packers and cooperatives, the supply manufacturers, and all other groups. It creates within the Federation an Executive Committee which can truly present to Washington officials a united front. It sets up for the very first time a yardstick whereby each individual and organization within the industry can co-operate in supporting the Federation. It provides a means whereby the industry can solve its own problems—not just those problems of today but those which will arise in the future—inasmuch as the Constitution of The American Beekeeping Federation provides for a sound foundation of organization based upon the promises of cooperative thinking rather than competitive thinking.

## Co-operative Pollination Projects

MUCH INTEREST HAS BEEN MANIFESTED in recent proposals to establish seed growing on a basis of co-operation between the farmer who grows the plants and the beekeeper who provides the bees. In general it has been suggested that the amount of seed above the average be divided between the farmer and the beekeeper. This plan would encourage the beekeeper to concentrate a sufficient number of bees in the vicinity of the field to insure good pollination.

So many factors enter into the problem of pollination that it is difficult to determine a fair division of the profits. Much depends upon local conditions and the number of wild bees



# See It •



present. In some areas little or no seed is harvested without the honeybees and in such cases a cooperative arrangement works to the profit of both the farmer and beekeeper.

It is highly important that careful study be made of this problem and more information is needed on which to base decisions. We hope that our readers who are familiar with any such effort will send us a full report of results obtained. We want to know the kind of crop, the acreage, the number of bees, the yield of seed obtained and on what basis the benefits were determined.

## Passing Opportunities for Better Bee Pasture

A WORD TO THE RIGHT PERSON AT the right time will often result in the planting of trees or shrubs which will provide substantial bee pasture. Where different trees will serve the same purpose the interest of a group of beemen may determine which shall be planted. Highway commissioners are planting hundreds of miles of roadsides with trees and shrubs which will remain for many years. It is reported that in Texas large numbers of the tallow tree are used to the great advantage of the honey producer who gets good crops once the trees reach flowering age.

The Indiana Coal Producers' Association are planting about two million trees each year on mined lands. If they can be induced to plant black cherry they will have a fast growing tree which will provide valuable lumber for the cabinet maker and abundant bee pasture for many years before the trees reach maturity. If they use black locust the beekeeper will profit. Here is an opportunity for wide awake beemen to consult the division of forestry of the Coal Producers' Association to see whether some nectar bearing trees can be included in the plantings.

Such plantings as the above mentioned are passing opportunities and once finished will not be replanted for a generation. What we do now

will determine to a large extent what the available bee pasture may be for a long time to come.

## Baking Goods Contents

ACCORDING TO A RELEASE OF THE American Bakers' Association farm products used in baking total 870 million dollars. Of this 117 million is sugar. Honey is not mentioned in the list which includes flour, shortening, eggs, milk and fruits besides sugar.

Surely we need some research and some boosting on the part of the beekeeping industry that honey may take its place in the baking industry to a more recognizable point.

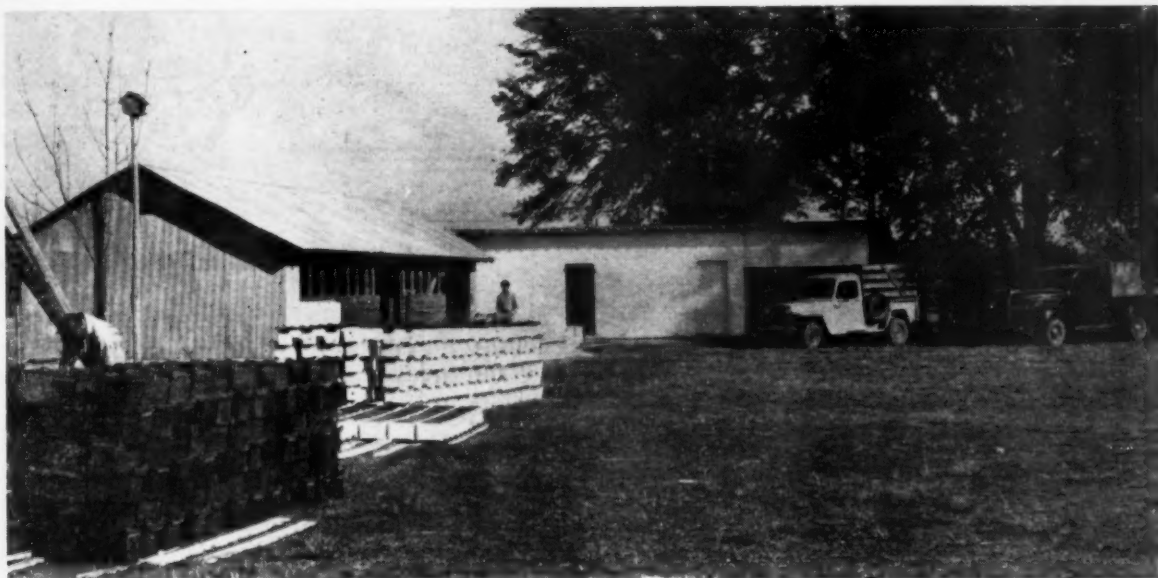
## Less Transportation Costs On Express Shipments of Bees

THE AMERICAN BEE BREEDERS ASSOCIATION is desirous of getting lower transportation costs on bees shipped by express. In the early days of package shipping, losses were heavy and double first class was not only charged, but earned because of the heavy loss claims. Later, with improved packages and improved services by the express companies it became possible to reduce to first class rates.

Now it appears that the loss percentage is no more and even less than with other classes of express shipments.

Wm. Wicht of the above organization brings forward the fact that twenty percent or more of the weight of the package is in sirup provided to sustain the bees enroute. The express companies may gradually lose revenue to the air lines since much less feed will be required by these quick shipments.

Moreover when fish are shipped packed in ice, a certain allowance is made for the ice weight provided to bring the shipment safely to its destination. The case of feed for bees is very similar. Wicht has a point there and if the records of the express companies show low losses, we see no reason why they would not be justified in a reduction in charges.

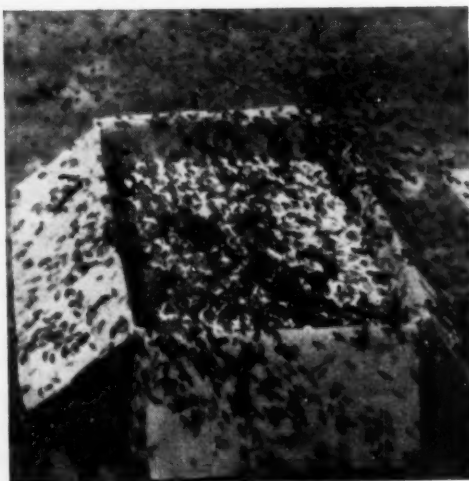


The Sunny South may be a dream of a Winter Vacationland to many of our Bee-keeper friends in the North, but not to us.

We are hard at work—for this is our season of preparation. There are supplies to be purchased and properly stored; bee shipping packages to be cut and nailed; queen cages to be manufactured (you'd probably be amazed at the work involved here); queen cage candy to be made and packed away; all equipment checked—and repaired where necessary; and always countless plans—plans for small and large improvements, for greater efficiency—for greater economy. Our office force is busy, our factory men are busy, and more than anyone, our manager is busy. Nor can we forget the bees entirely at this time, for bees must be fed throughout the winter and kept in shape for early build-up. Yes, winter is indeed no slack season here; but we are not complaining for we anticipate the best year ever in 1949—good weather, and good production of the finest quality bees and queens yet to be shipped out of the South.

At the time this is written, December 10th, the 1949 prices have not been published. Write for them after the first of the year.

## The Daniels Apiaries : Picayune, Miss.



BEES WILDLY WORKING  
POLLEN SUBSTITUTE

## POLLEN SUBSTITUTE

Dry pollen substitute is so easy to feed. Simply mix the two flours and place in an open tub, hive cover or any shallow container available in front of the hives any day when the bees are flying, starting in February north of the Ohio River and earlier farther south.

By feeding pollen substitute the bees will build up faster and be all around in better shape. Figure 5 pounds of substitute per colony and order now as freight is moving slowly. Proper mixture is one part of yeast to 5 parts of soy flour.

5 Lb. Bag Yeast	\$ 1.50	Wt. 7 Lbs.,	F. O. B. Paducah
25 Lb. Bag Yeast	5.00	Wt. 27 Lbs.,	F. O. B. Paducah
100 Lb. Bag Yeast	15.00	Wt. 103 Lbs.,	F. O. B. Paducah
25 Lb. Bag Soy Flour	2.50	Wt. 27 Lbs.,	F. O. B. Paducah
100 Lb. Bag Soy Flour	6.00	Wt. 103 Lbs.,	F. O. B. Paducah

DETAILED INSTRUCTIONS WITH EACH SHIPMENT

Large Stock of All Catalogue Items.

Write for Quotations On Large Lots

**WALTER T. KELLEY CO.**

BOX 210 : PADUCAH, KY.

**LITTLE & MOORE APIARIES**  
**ORIGINALLY**  
**LITTLE'S APIARIES**  
**The JOHN M. DAVIS**  
**STRAIN Italian Queens**



Guaranteed to please  
 or money refunded.  
 April 15th to June 1st,  
 1 to 10, \$1.25 each  
 June 1st to November  
 1st, \$1.00 each,  
 any number.

**LITTLE & MOORE APIARIES**  
**SHELBYVILLE, TENNESSEE**  
 Where Quality Reigns

**Dovetailing Machine**

FOR MAKING BEE HIVES AND  
 SUPERS. NOW A SIZE FOR  
 EVERY BEEKEEPER'S SHOP.

DETAILS ON REQUEST.

**Carl E. Johnson Co.**  
 1857 GREGORY AVENUE  
 LINCOLN PARK 25, MICHIGAN



**ITALIAN**  
**BEEES AND**  
**QUEENS**

**The Village Beekeeper**  
**LOUIS L. COUCH.**  
 Pineville. Louisiana

Every mail brings in more and more orders for

"Silverhite" Ready-mixed Aluminum Paint  
 from beekeepers, located all over the U. S. A.  
 They have found that it really keeps  
 their hives from 10 to 15 degrees cooler in the  
 summer and 10 to 15 degrees warmer in the  
 winter. Write for our circular and prices.

**TUNG OIL PAINT MFG. CO., Inc.**  
 BOX 83 ORANGEBURGH, N. Y.

**Italian Package Bees**

Top quality northern California bees  
 and queens at reduced prices. Some  
 choice dates still available.

**W. E. CLOUD**  
 P. O. Box 64 Keno, Oregon

**PACKAGE BEES AND QUEENS**

**3-BANDED ITALIANS**  
 All bees and queens shipped in  
 new cages, and good weight. Write  
 for prices.

**ALAMANCE BEE CO.**  
 GRAHAM, N. C.

**GARON'S**

**Package Bees & Queens**



Better Quality Italians and Daughters of Tested A. F. B. Resistant  
 Stock. The quality that brings in the Honey. The Service that brings  
 your bees to you when desired.

**PRICES**

	2-lb. with queen	3-lb. with queen	4-lb. with queen	Italian Queens	DR Queens
1 to 9	\$4.20	\$5.30	\$6.40	\$1.25	\$1.65
10 to 24	4.10	5.20	6.30	1.25	1.65
25 to 99	4.00	5.05	6.10	1.20	1.55
100 and up	3.90	4.90	5.95	1.10	1.40

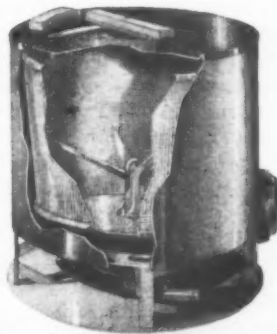
For packages with D.R. Queen deduct the price of the Italian queen  
 from the package and add the cost of the D.R. Queen.

We have important and interesting information regarding our D.R.  
 stock that we would like to pass on to you. Circular sent on request.

**Garon Bee Co.**

**Donaldsonville, La.**

**"A HAPPY NEW YEAR"**



Pat. Applied For

'A Honey of a Moneymaker'

We, the makers of the DIAMOND  
 SPINNER, extend this greeting to our host  
 of beekeeper friends throughout the land.  
 We deeply appreciate your past patronage  
 and assure you of our willingness to co-  
 operate with you in every possible way,  
 ever striving to ease your burden and in-  
 crease your profit.

**THE DIAMOND MATCH COMPANY**  
 1300 PRODUCE STREET  
 LOS ANGELES 21, CALIFORNIA Or CHICO, CALIFORNIA  
 Our 1949 Beekeepers' Supplies Catalogue ready Feb. 1st, mailed on  
 request.



**YOUR CONFIDENCE IN US, PLUS OUR FRIENDLY SERVICE TO YOU**  
 has caused us in the past 20 years to be one of the leading shippers. Try us again this year.  
 Our packages are overweight and our queens are caged in our own yards as pictured above.

2-pound package with young queen	\$3.75
3-pound package with young queen	4.70
4-pound package with young queen	5.50

**CENTRAL LOUISIANA APIARIES**

**Marksville, Louisiana**

If you wish to buy or sell, use American Bee Journal ads



# A New Theory of Hive Heating

by

Harry T. Starnes

**T**HE hive warming idea is not new; it has had its advocates in nearly all countries, such as Norway, Switzerland, Greece, Germany, as well as the USA and other points. I have read one booklet in German, explaining a com-

A dome heat unit on bottom board. Other types—the Lyons pad; Porter frame size; Sechrist unit. Some use lamp bulbs.

mercial heated hive that was on sale as late as 1935. Even with the adverse conditions in Germany since the war, a few will go on with some hive warming, based on the ideas to be given herein.

A man in Montana tried winter hive heating in 1947-48. Another man tried wintering with heat in North Dakota at the same time, and both of them reported good results, and now ask for a method of reducing the cost of electricity.

Scientists agree that nature is one, and that all life: insects, animals, and man, exist within rather narrow limits. Man has a high constant temperature, not so high as fowls or birds, but higher than other creatures. This constant is usually set down as 98.6° F. We also know that the high constant of man is necessary because of the intricate brain. If you lower the body constant of man the first weakness shown is the brain, for the man loses consciousness. Other organs of the body will continue to function at lower temperatures, even right down to nearly 57°.

You probably know that bees do not maintain constant temperature, considering the colony, not the individual bee, as the organism. The point to note in particular here is that, as found by numerous authorities, bees do have **constant range** of temperature. Authorities in many countries say that bees run a temperature as high as 97° and the low-

est limit for a broodless cluster has been found to be 57°. Thus you see, the range of temperature is closely the same for man as for bee.

Man has used artificial heat, even before the dawn of history to supplement his caves, tents and dwellings. This was on the basis of comfort. With the coming of exact science and the thermometer, it was found that man attains comfort at 65° for the environment. This gives us a difference of 35° differential between environment and body constant of 98.6°. Let us now proceed to apply this differential to the constant range of the colony, as a hypothesis.

In the new "Hive and the Honey-bee," Dadant's 1946, you can read that Dr. Park, of Ames, says that about 92° F. is necessary for the colony to start brooding. He also declares that once brooding has begun, the temperature may fall to 85° and no harmful results will come to the brooding, and also, that the temperature may fall as low as 76.3° without serious curtailment of the total amount of brood that will eventually emerge. Several authorities accept 57° as the winter cluster temperature.

Using the above data from authorities, and using the 35° differential for comfort in man, we obtain the following approximation for hive warming: Deduct 35 from 92 and you have 57°. This is rather amazing, for 57 is the lower cluster limit. This means, that if man could reduce



Heat bottom



his body constant to 92 as in the bee, he would be just as comfortable in a room at 57° as formerly at 65° with 98.6° body temperature. For bees, it means that, considering the colony as the organism, bees are not uncomfortable until the environment drops to 57°, and they exhibit the first signs of discomfort by starting to form the cluster. Now deduct 35° from 85° and you get 50°; take 35° from 76.3° and it gives roughly 45° F. Practically as much brood will emerge if heat is supplied to bees at 45° and below.

Now apply this "yardstick" to wintering, as an approximation, using 57° as the wintering organism constant. Take 35° from 57° and you obtain 22° F. In round numbers let us call it 20°. However, 57° is merely the point at which bees start to cluster. All authorities will grant that bees would not be tightly clustered at 50° or even at 35°. In practical language, bees are not in much danger, if supplied with food, at 35°, for that is still above freezing temperatures. Using 35° as being reasonable or safe environment for bees, deduct the 35° temperature differential from it and we have 0°.

What does this mean? Logically, it means that bees are not tightly clustered at 0° and are not endangered. Practical experience from many sources leads me to say that most reports of damage to bees come

when the weather falls much below zero for long periods. My experience shows me that no harm comes to bees if artificial heat is supplied from 20° F. and lower. I have also found that my bees are in no danger at 20°, so why use heat when the bees are not too tightly clustered? I have had good results by applying the heat at 0° and lower.

This should make it clear that hive warming is not expensive. That has been the point which detained many from attempting it in the past. If you set the thermostat for 0°, and you average little weather that low, your cost would be very small.

How about the cost for spring? On the basis of this theory, you will get very little benefit from spring heating except when the night temperatures are below 45°. This means for a district such as central Indiana, the best time to use heat will be rather early, such as February or March, and that the benefit in April will not be so great; and for May, the benefit will be practically nil.

This theory has been worked out and tried here in response to a demand for cheaper heating. It takes into consideration many facts which were not used in the early heating experiments. All who have much 45° weather in spring can use heat if they desire. People in states having much winter temperature below zero can use heat by this plan at little

expense. I recommend that it be tested further in the following instances:

1. For rearing queens in inclement fall weather.
2. For installing packages in spring with less supersedure and quicker build-up.
3. For 2-queen colonies, to supply heat to the lower colony which loses heat to the upper one.
4. For wintering valuable nuclei and valuable queens.
5. For extra early spring brooding to enable colonies to be split to double colonies.
6. As experimental work, anticipating valuable hybrid queens in the years to come.
7. As a valuable means to enable the beginner to learn more about bees and their behavior.

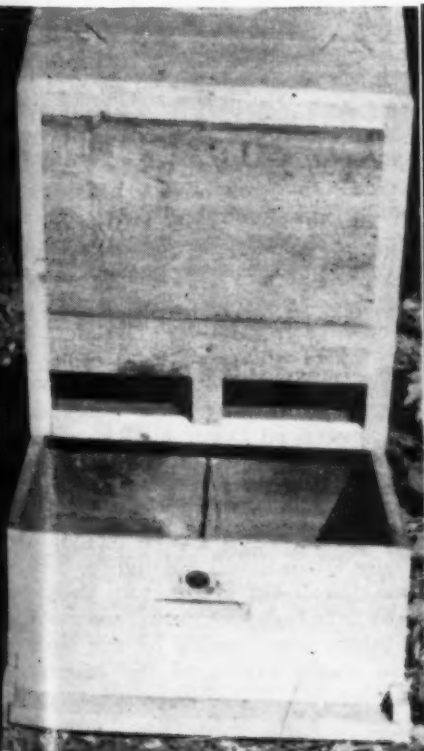
The hives used in my heating experiments were equipped as follows even before using heat: I use a small amount of top ventilation, and all telescoping covers have 20 to 25 sheets of newspaper under the metal of the covers, as insulation. If I did not already have my lids so equipped, I would advise the use of some top ventilation and some top insulation, by all means. It is a good plan, whether you use heat supplement or not. I would use ventilation and top insulation first, and add heat afterwards.

—Indiana.

Heat rim, with screened hole; screened bottom attached to hive.

Top screen over double nuc; allows two more nucs above; four nucs to a heater.

Complete unit for wintering four nuclei over one dome heater. Ten units operate with one master thermostat.



# American Beekeeping Federation Had a Meeting

Yes sir, the American Beekeeping Federation had a meeting! That's the new name for the National Federation of Beekeepers' Associations, with a somewhat changed constitution to make this overall organization in truth and in fact a NATIONAL ORGANIZATION. It is one we can all get behind and support with shekels because it undertakes to do all things together that we cannot do for ourselves alone—stimulate markets, further the spread of honey and pollen plants, find uses for honey, discover new things about honey and beeswax, improve market standards, sell the beekeeper to agriculture, encourage stock improvement, support the American Honey Institute.

Between 400 and 500 attended the annual meeting in St. Louis at the Statler Hotel, December 13-15, streaming in from all but two states. C. B. Gooderham, Dominion Apiarist of Canada and J. I. Hambleton, Uncle Sam's head man, figuratively dipped flags to each other. In addition to the beekeepers, there were the ladies of The National Auxiliary who stepped off to themselves, but a constant demand on time at the main show, leaves us with little to tell about what the ladies did. Maybe they will take the hint and send a report. The new officers are Mrs. Carl Killion, president; Mrs. Spence Stone, vice-president; and Mrs. Wesley Osborn, secretary-treasurer.

Allied industry was right there with the beekeepers; soil conservationists, bakery researchers, plant specialists, food publicists; and the official beekeeping leaders, national and state.

No one reporter could do justice to the layout. There were committee meetings in dozens; night-hawk sessions; changing groups glad-handing and jabbering from morning to night. So goes an honest-to-goodness beekeepers' gathering.

The basic spirit of this meeting however was to get things done. The hard working projects are sponsored by the committees and the effectiveness of the Federation will be gauged by just how well the committees carry out their jobs. We do now

have a chance to foster an organization that will lift beekeeping rapidly, in all its phases, into a place of worth and dignity. If all affiliated organizations, all allied groups, all independent members get behind and push, beekeeping ten years from now will be a joyous industry and a real handmaiden to agriculture.

The best we can do at summarizing the program is to give highlights.

**Dr. August T. Beilmann—The Beekeepers' Relation to Land Use.** A summary of conservation and seed production and their relation to bees. Dr. Beilmann is the Director of The Arboretum of Shaw's Gardens, at Gray Summit, and he is actively interested in honey plants for both ornamental and farm use. He is also a beekeeper.

**President Woodrow Miller—The beekeeper's key to prosperity is a strong, well financed national organization.** Although the present low price for honey may require some government support to help, we should finally solve our own problems and not ask others to do it.

**Secretary Glenn O. Jones—In defining the objectives of the Federation, he based an address to the convention along the same lines as those in his articles in the last three issues of the Journal.** There are good, meaty objectives, in permanently nice type, so, if you want to know what this new Federation hopes to do, read these articles. In his report Secretary Jones gave figures from the Louisville advertising trial to show that at the half way point the effort resulted in increasing honey sales from 10-15%. If the advertising yet to appear brings a further rise so sales show a 25-30% increase it will have been an effective effort to demonstrate what group, cooperative, or individual advertising can do in a concentrated market. Such a result would be even more remarkable when the fact is stressed that in all advertising it takes sustained effort over a long period of time to bring peak results.

**R. B. Willson, Honey and Pollen Plants Committee—This committee**

is educational. It seeks to enlist the cooperation of the soil scientist and conservationist and so far it has succeeded to a remarkable degree. Seed men, soil men, railroad engineers, and land use specialists have come to understand that bees have a place in their problems. The various states through their organizations should appoint committees to cooperate with the Federation to enlarge this effort.

**Harriett M. Grace, Director American Honey Institute—Honey should only be offered to the consumer as a quality product in a good package, under continuous advertising and store display.** Toward this end the Institute paves the way. The rest is up to the individual producer and distributor. The Institute also enlists the cooperation of all allied food industries and most of these groups are supporting honey sales. It also features the advertising of honey in professional magazines to interest the support of doctors, nurses, food specialists, home economists, and similar groups.

Newspapers and magazines are furnished releases with pictures featuring definite honey recipes. The honey booklets and leaflets in fine design and at low cost that are available to beekeepers to support their sales efforts would alone be worth the support the Institution requires. A new Institute project will be correct information about the use of honey in infant feeding, an approach that we have long needed.

**Roland W. Selman, C. J. Patterson Baking Laboratory—Honey in Industrial Uses—Dr. Selman's organization is mainly interested in bread and very much interested in the use of honey in baking—but a thorough search gives very little scientific information on honey—its character or its place in the baking industry—almost a complete lack of the kind nite need for grading and standard pricing. There must be standard grades for technical use and for consumer use. Off grades turn people away from honey. There is too much of information needed by the more than 30,000 bakers of the country**



who would be glad to use honey if they knew how to do it dependably. While inverts may serve as well as honey in bread, honey in its finer grades has a quality and a flavor that is superior. With proper use, information available and stabilized honey characters, the baking industry alone could easily use 500,000,000 pounds of honey a year. Now honey has no uniformity in flavor, or color or moisture. There would be a large use for stabilized honey in dry mixes if a way could be found to remove the moisture from honey as has been done with molasses. But the burden of research to solve the problems the baker faces in the use of honey must be borne by the beekeeping industry.

**R. B. Willson, Honey Utilization Committee**—The committee proposes to bring together what we know now about the use of honey in baking, candy making, ice cream making. Then it proposes to get dependable facts before these groups to increase their consumption of honey.

**Philip F. Allan, Regional Biologist, Soil Conservation Service, Fort Worth, Texas**—Legume seed production is declining in spite of improved farming and increased acreage. Legumes are very necessary in soil conservation since they hold the soil, improve its structure, and fix nitrogen reserves. Decline is due in part to the destruction of native pollinators, close farming, and lack of cover. The present demand for legume seed far exceeds the supply. New legumes are also in the picture now. Vetch was scarcely known ten years ago, now the production of vetch seed is 3,500,000 pounds. There has been a great increase in the use of bees in conservation districts as well as in farm legume rotations. Hubam rotated with cotton results in an increase in cotton yield of from a third to one hundred per cent. Use of the new varieties of sweet clover, like Madrid, are increasing. The soil Conservation Service is advising the use of bees among farmers in planned programs and in conservation districts. It issues job sheets on pollination along with culture practices.

**C. J. Hudson, Jr., Honey Grades Committee**—People are willing to pay a good price for premium graded and quality packed honey. Prices during sugar rationing of course went too high and an opposite reaction must be expected. There is a deflating and too many mislabeling and too many misconceptions about honey. Perhaps

grading should be compulsory. There should be readily available grading facilities and inexpensive grading equipment.

**Roy A. Grout, Strengthening Our Organization**—A new constitution is presented for an improved organization to be called the American Beekeeping Federation to truly represent the entire industry. Membership to be \$5.00 for each 100 colonies or fraction thereof for the beekeeper and 0.1% of gross sales for manufacturers or distributors; for those not included in this classification the minimum fee to be \$5.00; for association affiliation that 10% or \$2.00, whichever is greater, be returned to the association and that this be deducted from the amounts received from association members who join the Federation. The organizational structure of the Federation calls for a president and vice-president elected by vote at each annual meeting, the secretary-treasurer to be subsequently selected by the executive committee. The Board of Directors to consist of one representative from each member organization plus enough additional members to be elected at each annual meeting for a total of not less than twenty-five. This Board of Directors, at a meeting immediately following the annual meeting, shall elect five men from its members to serve with the President and Vice-President as the Executive Committee. While today we find our markets in a deplorable state and we have many problems to solve, we face a future that holds great promise in which orderly marketing can be established. We face a future in which, by organizing together, we can solve all of our problems and we can establish a true meaning to the importance of bees to agriculture; we can find new uses for honey; we can rise together and build a better industry to assure a better life for ourselves and for our children.

At the evening session Huber Root presented a wonderful color movie of bees and honey, followed by a round table discussion led by Walter Kelley, on better returns from beekeeping by cooperative marketing, market stabilization, development of outlets for creamed honey, by direct store contacts, development of honey specialties, by well established pollination services.

Wednesday morning was devoted to committee reports and nominations. As an interval fire-torch Gordon W. Crump, Publicity Di-

rector of the Wisconsin Dairy Industry, took our hair off for not having enough imagination to develop our own markets.

**Harold J. Clay, Marketing the 1948 Crop of Honey**—Average prices for honey in wholesale containers are now so low that many beekeepers are seeking other means of livelihood. Sugar prices are now closer to honey than before the war and some prices are actually lower than sugar. Many good honey customers stopped buying because of excessively high prices. The easy marketing of war days got beekeepers out of the habit of selling. Now they want someone else to do the selling job. Carelessness in honey quality during the war and the offering of cheap imported honey also lessened consumer confidence. Dealers also expect a wider margin of profit than formerly. So the job before us is to add to our returns so the business of keeping bees will again become profitable. If our techniques could be restricted to the real essentials many beekeepers could handle more colonies with the same overhead. Government assistance is of uncertain value.

We have a lack of faith in honey and honey deserves our faith. If price cutting were abandoned and selling substituted we would be all right. As an example we have the Institute's National Honey Week but unlike other commodity weeks we do nothing about it. The cranberry people make their cranberry week count big in yearly sales. This fall tremendous publicity was built up for apples in Apple Week. Now we have a Kraut and Frankfurter Week. The Federation by all means should have a publicity and advertising committee.

**James I. Hambleton, Progress in Bee Culture**—He stressed the continued need for research on the injury to bees by chemical poisons and told of their plans to reinstitute studies and research in this field. He cautioned beekeepers concerning the use of sulfathiazole in the treatment of American foulbrood, basing his remarks on research carried on at Laramie, Wyoming, and the basic research on strains of *Bacillus larvae* being carried on at Beltsville, Maryland. He made a number of worthwhile suggestions as to ways and means by which the Federation could work for the good of the industry. In this connection he pointed out the need for trained personnel for teaching, extension, and research in beekeeping.



Harriett M. Grace

## The First Lady of the Honey Industry

by Phyllis Rasmusson

**M**ODESTY forbids Mrs. Harriett M. Grace, director of the American Honey Institute, to think of herself as the very foundation of the Institute. Evidence has it, however, that what Mrs. Grace **thinks**, makes the American Honey Institute the great organization that it is today.

Since 1938 Mrs. Grace has led the Institute into ever-widening circles of successful honey promotion. Since 1938 Mrs. Grace has devoted all of her time, her energies—yes, her life—to informing the American public about honey, the world's sweetest sweet. Since 1938 the honey industry has had at the head of its promotional organization a woman who

•  
*"You are not what you think you are.  
 But what you **THINK**, you are."*

—Norman Vincent Peale.

•  
**Florence K. Tomlinson, our illustrator, made the charcoal drawing of Mrs. Grace from life for this month's cover.**

knows what she wants and goes out to get it.

She wants—and gets—a progressively better honey market!

Common sense and straight thinking don't just happen. They are cultivated. Mrs. Grace has sharpened her mind on the whetstone of experience until it is keen and perceptive.

A graduate of the University of Wisconsin, Mrs. Grace went on to take her postgraduate work at two of England's most famous universities—Cambridge and Oxford. With aspirations to be an actress, Mrs. Grace studied the drama and the old culture of Europe, returning every other year to continue her self-education.

Although today it is not the central interest in her life, drama still attracts Mrs. Grace. The Grace family is a theater-going family and she never misses the good plays that come within reasonable distance of Madison.

Grandfather, father, older sisters—all, were teachers. Mrs. Grace too, trained for the teaching profession, the "only respectable thing to do" at



the time. Her work at the University of Wisconsin was in foods, and for a while upon graduation she taught foods. This foods training later on became very important in her work for the Institute.

Jack Horner had his finger in only one pie. Mrs. Grace has hers in many of them. A woman with many interests Mrs. Grace belongs to numerous social and professional organizations. Contacts made through these groups often help Mrs. Grace establish business relations for the Institute. It is interesting to glance at a list of these organizations and note the number in which Mrs. Grace has held a responsible position:

University of Wisconsin Home Economics Alumnae Association—  
Past President,  
Present Chairman of Past Presidents.

Wisconsin Home Economics Association—Vice-President, Secretary-Treasurer.

Southern Wisconsin Home Economics Association—President.

Wisconsin Home Economics in Business—Past President, present Advisor.

American Home Economics Association—edited first newsletter for Homemakers' Department.

American Dietetic Association.

American Association of University Women.

International Altrusa.

American Academy for the Advancement of Science.

Wisconsin Academy of Sciences, Arts, and Letters.

American Trade Association Executives.

The appeal of her other interests, however, fades away into obscurity when Mrs. Grace starts talking about the American Honey Institute. "It is by far," she says convincingly, "the most interesting and fascinating work I have ever done. I've been

happy in it every minute." Ten years' time—every minute—amounts to a great deal of satisfaction. Proof of this satisfaction in her job is found in the fact that Mrs. Grace has not taken one vacation in the whole ten years that she has been with the Institute. Upon accepting the directorship she gave up her bi-yearly trips to Europe to devote all of her time to the honey industry.

One glance at the top of Mrs. Grace's desk in the morning would convince anyone that the Institute is a very busy place. The incoming mail always is piled high on one corner of the desk; tear sheets of honey articles from newspapers all over the country occupy another spot; letters from other associations and food companies seeking Mrs. Grace's cooperation in product promotion are usually tucked on one corner of the blotter; layouts for new ads, proofs of a new booklet invariably are found balanced somewhere on the desk.

Responsibility such as this would frighten most people. Mrs. Grace, however, seems to enjoy it. Coupling an excellent memory with the ability to accomplish a lot in a short time, Mrs. Grace spends most of her day greeting visitors, conferring with beemen, scientists, home economists, and home service directors, and answering the mail that covers her desk. She seldom is without a new idea, a new means of promoting honey. The current program of advertising in national professional magazines is one of Mrs. Grace's most successful ideas. The ads have brought in thousands of requests for further information on honey.

Were Mrs. Grace to write a column called "My Day" it would run something like this:

Open mail and have orders and requests filled immediately. Dictate answers to morning mail. Look over tear sheets from newspapers and

have them mounted. Write a news release that is to be sent out tomorrow. Confer with advertising men about new ad layout. Begin outline of speech to be delivered at beekeepers' meeting. Lunch with representative of another food industry to see about joint promotion. Go out to University to see Dr. C. A. Elvehjem, head of the biochemistry department, and follow up the honey research he is doing. Come back to office and open afternoon mail. Dictate more letters, check up on other office work..... Finally go home only to work out more publicity for the Institute. Never a dull moment!

Mrs. Grace is recognized as an eminent Wisconsin businesswoman. Her name is listed in the book called "Career Woman"; she also was named one of Wisconsin's most outstanding women at their Centennial celebration.

Recognition also is given Mrs. Grace by national magazines who have asked her to write authoritative articles for them. These articles have appeared in such well known publications as — **Field and Stream**, **Phoenix Flame**, **Better Homes and Gardens**, **Parents' Magazine**, the **Altrusan**, and the **Journal of the American Home Economics Association**. It is this high esteem of Mrs. Grace's opinion that gives honey these extra promotional pushes.

Never once have the girls who work in the office seen Mrs. Grace come into the office without a smile and a welcoming word. Secret of success? Why, it's most apparent to those working with her—it is a sincere enthusiasm for her work and a real interest in the welfare of the honey producer.

No, Mrs. Grace would never say that it is her ambition and initiative that make a successful American Honey Institute. But none of the many people she serves—beekeepers, packers, the American public—can doubt it!

## A Discussion for March

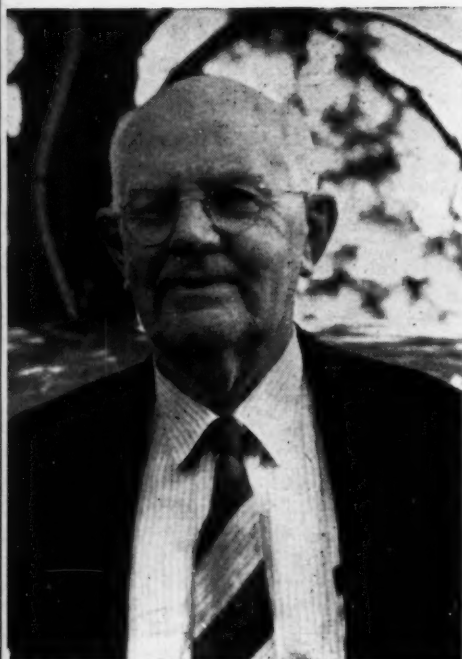
One of the ablest editors in beekeeping was W. Z. Hutchinson, of Michigan, editor of "The Beekeepers' Review." He was a beekeeper, an experimenter and a rabid enthusiast. He was alive to the readers. One of the best efforts he made was his monthly discussion of vital subjects backed by open invitation to readers to participate. We still go back to those issues of the "Review" to find what beekeepers in Hutchinson's day thought about subjects that still worry us.

The obvious difficulty with a monthly discussion is that usually the volume of materials is too great to hope to publish all of it. Many who contribute repeat the same thoughts. But with editorial connivance it is possible to "boil out" the essentials, avoid the repetition, and come out with something worth while.

Let's try a monthly discussion, beginning with the March number, two months ahead. The subject chosen is:

**A COMPARISON OF PACKAGE BEES WITH OVERWINTERED COLONIES IN HONEY PRODUCTION.**

Tell what you think. Address your contributions to Discussion Editor, American Bee Journal, Hamilton, Illinois. Also suggest other subjects for possible inclusion in future discussions. We will do our best to get it all into print in good form so all of us may benefit from it.



by

**L. F. Childers**

**B**EEKEEPERS are habitual slaves to the weather. At season's end there are always lamentations that if the weather had been thus and so . . . . But a little straight thinking should reveal that other factors should be considered. Years of experience have taught us that our finest honey in both quantity and quality comes from the drier areas of the West and the North. That statement will likely come in for some violent argument but I am certain the weight of evidence will sustain it. I, too, was once a disciple of the weather but after some vivid experiences I have changed.

Six years ago I had gone to considerable expense to prepare a seventeen acre field for sweet clover solely for honey production. When it came into bloom imagine my surprise to see the bees rise in a half circle and take off in almost the opposite direction. Comparatively there was not a thimble full of bees in my field and the edge came within two hundred feet of the apiary. One day Joe Shifflet, our highway superintendent, a beekeeper himself, came by and we got to chinning about our bees. I remarked to Joe, that this certainly was a season when sweet clover was not yielding. "Why," he

## LIME

says, "back up the road your bees are so thick on the sweet clover that my men are afraid to mow out the right of way."

At dinner time wife and I drove back up there to see for ourselves and sure enough the bees were there one and a half miles from home. On that area was a condition that many see but few stop to consider. A rock quarry was close by and in WPA days the boys had crushed many tons of limestone for the farmers to haul away. When it was removed sweet clover sprang up on its base and on this clover were my bees thick as hops. But the prized lot of it all was up the road half a mile farther. My neighbor had broken his wheat ground in July, limed it with three tons to the acre, and at seeding time added two hundred pounds of superphosphate. Seeding the sweet clover with the wheat in the spring and after wheat harvest left the clover to the next year to collect the AAA payments. And right there were my bees just having a riotous picnic in that field.

In this same vein other experiences with other animals have come to light. Several years ago one of our county agents persuaded a farmer to lime a plot of ground to see—so they said—what effect correcting soil acidity would have on clovers. After the experiment had run its course the farmer prepared that and the surrounding area for corn. Fall came and he turned his hogs in to hog out the corn. This was a long field and this plot was eighty rods from the barn lot where the tankage and water was. But these hogs traveled the full eighty rods through the rows of corn to this plot and they ate every bit of that corn before feeding elsewhere. Photographs are extant to show this odd condition if any one doubts it. Then another farmer in southwest Missouri had a large pasture of native prairie grass. He spread a ton of lime in the center to see if it would affect the growth of native grasses. He said that for eight

## in relation to the

successive seasons his cattle would return first to that area and eat the grass to the ground before grazing elsewhere. Other similar experiences can be quoted but these are enough to excite the curiosity of those who would know why it is that pigs and cows and bees seek to forage on those plants that grow on lime rich soils.

The answer to this question goes to the very bottom of things and I am going to ask my readers to go with me on a short botanical excursion with side trips on chemistry and then we are going out into the field of farm practice to see if we as beekeepers can find where we are standing.

Since our best honey comes from



# to the honeyflow

the clovers let us confine our attention there. It has been aptly said that the leaf is the stomach of the plant for it is there that all digestion and assimilation of the raw elements are done. If we cut a cross section of a leaf with a sharp razor and place it under the high power of a microscope we see a lot of long cells standing on end close together like a forest of base ball bats. It is in these cells that the manufacturing of plant foods is done.

Suppose we pull off our shoes and crawl into one of these cells and take things apart and see if possible what each does. First we will note there is somewhere near the center a nucleus from which action seems to be directed. But our interest will be di-

rected to the results of such action. Raying out from this nucleus to the side walls are a series of canals similar to a spider web. There are

vacuoles in these which apparently contain fats and we can easily discern starch grains. The substance next the inside walls is very dense



Sweet clover is the honey plant most responsible for the rise of commercial beekeeping. What has happened to it? Is it loss of favor; or insect damage; or disease; or soil depletion?



and consists of the products of food assimilation, such as starches, fats, oils, sugars and proteins. Some plants can store more of these foods than others and this difference is the chief mark between a forage and a weed.

But now we are finding ourselves standing up to our necks in a thin watery solution that permeates everything inside. What is this stuff? It is called cytoplasm and it contains all of the raw elements from which plant foods are made; elements sent up to it by the roots. These consist of carbon, hydrogen, oxygen and water, and carbon dioxide which



arises from decaying plants in the soil; and soluble minerals such as lime, potash, sulphur and phosphorus. All of these along with a lot of green patches are floating as a heterogeneous mixture in this cytoplasm.

These green patches are so numerous they create interest. What are they and why are all growing things green? Why couldn't they be black or red or some other color? But no, they are green. Now, nothing in this world happens except something is behind to drive it, and sunlight is the driving force behind plant growth and this green coloring is in fact a light trap. It gathers the rays of light and like a treadmill delivers the power to weld together these separate atoms which I have enumerated into the various foods as we know them.

Even in nature the laws of chemistry cannot be violated and we have gained a crude idea of how some of this welding process is done. In general we know that many acid bodies will not of themselves unite with other acid bodies and in the manufacture of all of our foods we are dealing with bodies of varying degrees of acidity. Nature has cunningly devised a way to get around that difficulty. It provides a neutralizing agent, sort of a go between, to bring about a coalition of such stubborn substances, and this agent follows through from the time a few atoms are welded together until the product is finished. A convenient way to think of this is to vision the modern assembly line. Somehow in these green patches a few atoms gather up and unite. Chances are they will be carbon, hydrogen and oxygen and any unit they form will have an acid reaction because of the hydrogen atom present. Then before further progress can be made some one of these alkaline bases must come along and neutralize it which then would leave room for another atom to be built in and thus by keeping this zigzag action going a molecule of matter is produced which may turn out to be starch, sugar, fat, oil or protein.

The two principal alkaline bases which perform on this assembly line are potash and lime, and seemingly they perform on different families of plants. Potash functions almost entirely on the carbonaceous families, while lime is the principal base on the legumes or the proteinaceous families. When the protein molecule is on the assembly way potash drops out and lime takes over. At this

point the beekeeper may think he is more interested in potash because it is credited with forming starches and sugars more directly, but it happens that starches are split off from the protein molecule as it is formed on the way and from experience this starch forms a better proportion of the two sugars found in honey. This statement could come in for some lively debate for in truth all we know for certain is that starches are split off as the protein molecule is formed.

Protein is a far more complicated body than are the starches and sugars. There are six elements in it. In addition to carbon, hydrogen and oxygen there is nitrogen, sulphur and phosphorus. Now it happens that both sulphur and phosphorus enter into some of the strongest acids we know of. And while we do not know how strongly acid they are when being built into this protein we do know that it takes a progressively lot of lime to get it finished. In fact it takes a whole pile of it.

At this point it is well to say that I have taken my readers on this excursion for two purposes. First, I wanted to show that the foods as they are built up are stored around the inside walls of the cells, and gradually accumulate until the plant approaches maturity. And I must say here that nature requires but two things of all its creatures. First, they must develop to maturity and second reproduce. This done, nature is fully satisfied.

As the season advances and the plant has thrown out many stems, branches and leaves and the assembly lines are crowding the inside of the cells with food there comes a time as if by magic when a flowering stem shoots up and all this food starts migrating to the flowers and on into the seed capsules. Again I must stop to say that it is this same food that the animal consumes to make blood, bone and muscle. The same that the plant lays down in its reproductive organs and the bee takes as nectar to create honey. Nectar is not a special creation. The bee takes the same food the animal takes but distills it differently.

The second reason I took you on this excursion was to show why lime was so necessary to protein production. None of the legumes and especially clover or alfalfa will grow in the absence of lime. It is a must on the assembly line. We don't put lime on the soil to correct acidity but we put it on the soil to keep this

assembly line running. Plant roots are not deterred by the presence of soil acids. All our acid tests are for is to show the need for lime. I said it took a whole pile of lime to get a molecule of protein off the assembly line. Let us now get out of this cell and see how big this pile of lime is.

Suppose one hundred bushels of corn were grown on one acre of land and it was all burned and the lime weighed. It would be just 23.4 pounds. One hundred bushels of the grain would weigh 5,600 pounds and the air dried stalks about the same or say 5½ tons. Suppose now an equivalent amount of clover was burned, the lime in its tonnage would be 665.5 pounds, about thirty times as much.

In other words every time a farmer takes 2.8 tons of clover from his land he is taking away enough lime to grow fifty-bushel crops of corn for thirty years. How long can our soils stand that? A man will sow alfalfa and take four tons away for five or six years, then the weeds begin coming in. Says he, "I'll break that up, plant it to corn (which is the correct thing to do) then I'll sow it back to alfalfa." And how often does he ever get a full set. Just about one plant to each square yard. What has happened? Why, those alfalfa roots have fished every bit of lime out of that soil for five or six feet deep and he will wait a long time while nature builds it back. Four tons of alfalfa for five years will remove 1400 pounds of soluble lime.

The Missouri Experiment Station has a small plot of ground slightly lower at one end across which they have dug a concrete pit and arranged to catch the leaching water from each of several divisions. They make analyses of this water to determine the amount of soil nutrients that leach away. They found where the ground was cultivated continuously to corn that the lime leached through the soil averaged over several years was 552.1 pounds, and where the rotation was corn-wheat-clover it was 215.2 pounds. With blue grass it was 2.67 pounds.

These figures taken with the amount of lime removed by clover or alfalfa are crucially important to us beekeepers for one can't run a rotation like this more than two or three rounds until there is not sufficient lime left to grow clover. And that is just exactly what has happened or is happening in the territories east of the one-hundredth



meridian. It is a fact that the lime in the soil progressively diminishes from this meridian to the Atlantic sea board. And conversely the rain fall increases over the same terrain. There is no doubt that most of our shortages of lime are due to our torrential rains.

Thirty-six years ago I was agronomist for the Idaho Experiment Station and I saw clover in southern Idaho that they said yielded nine bushels of seed to the acre. I won't vouch for the bushels but I will vouch for the fine quality of the seed. It was big round purplish seed that looked like miniature foot balls. And that seed now is the best that comes to our market. Why is that? Come to think about it all, the lime that was in that soil when the morning stars sang together was still there when the first irrigation water was applied. I don't know that state lines could make any difference in the quality of seed, but Idaho got the name because it started blowing about it first. You know it is said if those folks

could suck as hard as they blow they would soon have the whole Pacific Ocean over there.

There is now quite a stir about setting bees in clover fields on the seed share basis. I am certain a lot of grief will be saved if the beekeeper will look carefully into the strength of the soil before going to all of that work. For what is happening is that the soil has enough lime to push the clover plant up to maturity but not sufficient to finish the job of seedling. If all the bees in Christendom were placed in a field like that they could pollinate and pollinate and still avail nothing.

That is what happens to our nectar. The plants age to the point of maturity, a big rain comes and leaches the lime in the soil clear below the reach of the roots and ere the loss is repaired the plant has passed yielding age. Our salvation rests on getting our bees on the richest limestone land to be found or on the land of those who freely spread lime and phosphate.

This lime on the assembly line is far more critical than we are wont to think. Suppose a dairyman to produce milk should buy alfalfa hay coming from poor lime soil where only half the protein was finished for lack of lime. Feeding such hay would be the first step in malnutrition. There would not be enough protein in it to maintain the body wastes of his cows. He would then go to a feed store and buy protein concentrates and charge the costs up to his customers.

It must not be forgotten that the plant is between the animal and the soil, and where the plant leaves off the animal can not take over and finish. When I was in college I played football and the coaches were eternally at our heels screaming, "Watch that ball, follow the ball, keep your eye on the ball!" Mr. Beekeeper, lime on the assembly line is the ball in our business. Keep your eye on it.

Missouri.

## American Bee Breeders

One could scarcely pick a better place for a meeting than Biloxi, Miss., where the meeting of the American Bee Breeders Association was held in the Buena Vista Hotel on Nov. 18 and 19. As was anticipated, stress was laid on the necessity first of co-operation of breeders in better trade practices. It was urged that all members use the A.B.B.A. emblem on their letterheads and other advertising.

Secondly, the necessity of a breeding program is recognized, though it was not possible to recommend plans for scientific research in this field including breeding through artificial insemination and hybridization. Possibly such efforts may best be carried out on a state basis such as the effort being made in California. This would call upon the A.B.B.A. as a liaison agent in instituting such work and co-ordinating it.

With the approach of large scale movement of package bees by plane, a new style package is desirable. J. F. Reinhardt of the Bee Culture Laboratory is making tests along this line from the Davis, California Station Laboratory.

Mr. Efton Lewis, Assistant General

Superintendent of the Mail Service at New Orleans consulted with the breeders on suggestions for changes in the postal requirements for package bees and queens. At present all queens sent in lots of 25 or more must go under SPECIAL HANDLING provisions with an extra charge. Previously, special handling was optional and no stipulation as to quantity. While the feeling was that special handling should still be optional it was decided to give the new regulations a year's trial before making recommendations. It was stressed to Mr. Lewis that special instruction sheets should be issued in season, to postmasters, particularly in the shipping areas urging the importance of keeping cages out of the sun while loading and unloading. In other words taking the precautions which have met with such good success with the express companies in moving package bees.

N. C. Jensen of Mississippi was elected as president for 1949, with L. C. Little of Tennessee as vice-president. J. F. McVay was re-elected as secretary-treasurer.

Approval was given to meeting in connection with the Southern Conference in 1949 in Alabama.

## Southern Conference

Speaking at the Southern Conference of beekeepers, November 12, at the Poinsett Hotel in Greenville, S.C., James I. Hambleton of the Bee Culture Laboratory, gave a report on the department's aims and hopes for bee breeding progress in the next few years. Hybridization may lead eventually to honeybees adapted to various conditions for honeyflows, climate, pollen gathering qualities, etc. But such selection will take time.

Honey has moved satisfactorily from the southeastern areas, in fact there is a scarcity of comb honey for packing of bulk-comb. The slow and moderate flows in those areas were not conducive to bulk comb production.

As in many areas there has been a problem with poison spraying. Such losses, however, were due more to lack of co-operation between beekeeper and farmer. State authorities are cognizant of the need of bees in the pollination program.

Alabama was selected as a meeting place for 1949 and J. G. Rossman of Georgia was selected as president, J. F. McVay of Alabama as vice-president and E. C. Hanson of Alabama as secretary-treasurer.



# Lorenzo Lorraine Langstroth

A Biography—Part I

by Dr. E. F. Phillips

**L**ORENZO Lorraine Langstroth had one purpose in life, to help others. He was a great and a good man. Those who knew him closely perhaps did not consider him a great man. Recognition of his greatness was a slow growth. It arose from the ever increasing benefits received by those who profit most from his invention and from his writings, as beekeeping was enabled to develop into an important industry. Many persons are good, but few are great. Langstroth qualifies on both counts.

Lorenzo Langstroth was born on

Christmas Day, 1810, in Philadelphia, where his grandfather, Thomas Langstroth, had settled. The first American Langstroth came from Yorkshire, England, a little over forty years before the grandson's birth, coming from a small valley still known as Langstrothdale.

Thomas, when twenty-one years of age, came to Philadelphia on business for his grandfather, arriving on the good ship *Glory* in the autumn of 1767. By the time the business was ended, Thomas had abandoned the idea of returning to his home in the West Riding of Ribblesdale. He liked

Philadelphia and near that city he established a mill for the manufacture of fine papers, one of the first of its kind in the colonies.

Young Thomas Langstroth married Anna Youck (Anglicized George) whose parents had come from Prussia to Germantown, and thus the American Langstroth family was established. They had twelve children of whom four died in infancy. Their fourth son, John George Langstroth, took on his father's business and became the owner of two paper mills. In due time he married Rebecca Amelia Dunn of Chester-

town, Maryland, of a slave holding family who freed their slaves because of the teachings of John Wesley.

Although a moderately complete family story is available our concern is for a single member of the family. John and Rebecca Langstroth lived at 106 South Front Street, Philadelphia, between the Delaware River and Independence Hall, and here their eight children were born. The second child and the oldest son was Lorenzo.

In some respects Lorenzo was a strange child, for while he engaged in most of the usual activities of a boy of the period, he developed an early interest in insects. Among recollections of his childhood was an abundance of that strange insect, the cicada, often known as the seventeen year locust. When as a grown man he told of watching cicadas shed their skins, he had forgotten in what year

it occurred, but entomologists have since learned to map and to trace back the various broods of cicadas, and we can be sure that Langstroth at that time was seven years old. Another cicada brood appeared in the Philadelphia area when he was eleven and this he also watched and played with.

As a boy he entered the preparatory school of the University of Pennsylvania and began the study of Latin. Here he committed to memory hundreds of verses of Vergil, most of which he never forgot. When he asked his grandfather for help with his Latin, the older man became so interested in reciting the Latin verses himself that his grandson got little from him, except perhaps a desire to equal his grandfather's skill.

At the age of seventeen, Langstroth entered Yale University, having been examined for entrance in Cicero, Vergil, Sallust, the Greek Testament,

Latin, Greek, and English, grammar, arithmetic and geography. We may be certain that boys then worked hard to get into college. There he studied more Latin and Greek, Hebrew, a modern language or two, higher mathematics, including navigation and surveying and of course rhetoric, Moral Philosophy, Natural Theology, Philosophy of the Mind, Evidences of Christianity and Political Economy. There were at that time some lectures at Yale in chemistry, mineralogy, geology and astronomy, some of which Langstroth attended. Daily composition was required for two years and senior students engaged in "forensic disputation" which perhaps accounts for his later exceptional skill as a writer and as a public speaker. His scholastic standing is indicated by the fact that he was elected to Phi Beta Kappa.

(To be continued in February)



L. M. Gates retires.



R. J. Walstrom succeeds.

## Nebraska's L. M. Gates Retires to Bees and Fruit: Walstrom Takes Over

L. M. Gates, Nebraska Bureau of Plant Industry, has resigned to retire on a small fruit farm in the outskirts of the village of Peru. Here he intends to devote full time in active work in beekeeping and horticulture, an opportunity to which he has looked forward for years.

Gates graduated from the University of Nebraska in 1913. From 1913 to 1915 he was a field expert for the Department of Entomology. From 1915 to 1925 he farmed near Chadron. From 1925 to 1927 he worked with the Entomological Department, becoming state entomologist in June, 1927.

He was chairman of the Central Plant Board for two years and was its representative to the National Plant Board.

Gates was one of those responsible for eliminating the reciprocal fees for non-resident nurserymen. He has been active in the various beekeeping organizations, with a keen interest in the industry.

R. J. Walstrom succeeds him as State Entomologist of the Bureau of Plant Industry at Lincoln.



# Jerusalem Sage

A bee plant of easy culture suited to the ornamental garden or wasteland planting

by

Frank C. Pellett

**N**EW honey plants are brought to public attention at frequent intervals. Many of them arouse momentary interest but it is only on rare occasions that some-

thing new is offered which proves to be really important. Always the beekeeper is seeking for new and better bee pasture and each new offering is examined hopefully but

seldom are expectations realized.

The Jerusalem sage, (*Phlomis tuberosa*), is probably just one more of the plants of only incidental interest although it does have some attractive features. It is a vigorous perennial well suited to planting in wastelands where it is likely to spread slowly and to maintain itself in competition to all but the most aggressive weeds. In our garden it commonly grows to a height of three to five feet and where a plant of this height is wanted it serves well in the ornamental garden. It has thick tuberous roots and large arrow shaped leaves.

The upper portion of the stem for from one to two feet is surrounded by whorls of light purple flowers which make an attractive showing for weeks in summer and often continue until autumn. The blossoms are attractive to a variety of insects and are likely to be humming with honeybees for many days.

Although this plant is little known in this country, it has been successfully naturalized in a few neighborhoods on the shore of Lake Ontario. It is interesting to note that books in the French language referring to the various species of *Phlomis* in Europe emphasize the attraction which they hold for the bees. This is not surprising since the mint family to which it belongs has a large number of famous bee plants.

In view of the large acreage of wastelands available in some areas it would seem highly desirable for the beekeeper within reach to scatter seeds of such plants as this. Where the land is newly worked as is the case with strip mining there is an especially favorable opportunity to establish bee pasture which is not likely to be disturbed for a long



Jerusalem sage is a tall growing plant of easy culture and great attraction for the bees.

The flowers of Jerusalem sage are in whorls and make a good show in midsummer.





Rea Howell Davis (Mrs. J. H.) Secretary and right hand aid to Arkansas' beekeeper-inspector. Seldom do husband and wife labor together for the same accomplishment as effectively as these two.



J. H. Davis, Inspector of Apiaries for Arkansas and a good beekeeper. When a full time inspector also has the bee bug, he looks at his problems from the right side of the fence.

## Arkansas Meets in Lively Session

Attendance at the Arkansas State beekeepers meeting in North Little Rock on November 22 and 23 brings forcibly to mind that the razorback state is rapidly "coming out of its kinks." At least if the enthusiasm and vim shown at that meeting is any measure of beekeeping as a whole in the state.

A few years ago the late Inspector A. Gay, re-vitalized Arkansas beekeeping and its association, that is, with the aid of a few hustling beekeepers.

Now, with J. H. Davis as state bee inspector, his estimable wife as secretary of the association and various prominent beekeepers taking turn at the presidential helm, the association has nearly 200 members, several

branch associations and a healthy growth anticipated.

Particularly noticeable at the meeting was the wide variety of interests. There were commercial beekeepers (crop for the state estimated at two million pounds), queen breeders and package shippers (75M queens, 15M packages in 1948), and a liberal smattering of amateurs, including farmers interested in pollination. In the group in attendance were also the chief of the Divisional Soil Conservation Service at Fort Worth, Texas, serving the states of Louisiana, Texas, Oklahoma and Arkansas, two men from the university at Fayetteville, the extension and research man from the station at Hope, as well as an expert on insecticides and their application. Sulpha, poisoning, pollination, con-

servation, honey packaging were all given free rein for discussion.

While Arkansas may never be tops in honey and package production, for diversification it is already forging along, and its beekeepers are keen in their individual interests as well as for beekeeping as a whole within the state.

With Irving Nantze as president, Mrs. Davis as secretary, J. H. Davis, in extension and inspection and a carefully picked apiary board to consult with the governor and its legislature, Arkansas beekeepers may well lay claim to more life than is exhibited by many states much larger in area, colony numbers and honey production. Keep the good work up, Arkansas. Your fishing is good too. Wish we could take a try at it.

time. In such a location the Jerusalem sage is likely to make satisfactory increase and to assume greater value to the beekeeper.

While attractive when in flower, the height of the plant is such as to make it objectionable for road-

side planting. Sweet clover is too often cut down at the start of its bloom for this same reason. Only low growing plants like marjoram or meadow sage are likely to meet popular favor for roadside ornament.

Wasteland areas if planted to a

suitable variety of honey plants to cover a prolonged flowering season may well go far to stabilize the honey crops and the Jerusalem sage should not be overlooked by one who wishes to make the most of such an opportunity.

# Texas State Meeting

**T**HE Texas State Meeting in October furnished the excuse for a motor trip for Mrs. Dadant and myself accompanied by a friendly couple going to visit a daughter in Dallas.

October is a delightful month for travel. The weather was superb going down through the Ozarks, and equally so in Oklahoma and Texas. One is struck by the newness of the buildings in the cities, particularly in Oklahoma and Texas. No doubt the oil resources are partly accountable for that, but much of the countryside gives the same impression, though we see here as everywhere, the result of an overburdened soil.

In addition 1948 summer and fall had been dry so the fields did look more barren than in the heavy bean and corn growing sections of our own Middle West. Cotton, peanuts, etc., have taken their toll, and time is, when soil conservation must be put into practice if the agricultural productivity of that great region is to be maintained or increased.

A meeting at Ardmore in Oklahoma under the auspices of the Samuel Roberts Noble foundation

gives a fine example of the concern with which the conservation picture is being approached.

It is pleasant to meet with old friends, too. The Texas meeting afforded that opportunity. E. G. LeSturgeon had been out of circulation for a number of years, but he made the effort to get to the Texas meeting from Houston, where he is living with a daughter. Guy is the same interesting friendly visitor, and his short talk of old time Texas meetings was fine. Dear Mrs. Burleson attended. How much T. E., the son, looks like his late father, who was such a booster for national progress in the beekeeping line. The Victors, the Weavers, Beals, Engle, Ross, Bulay, Hinton, and H. B. Parks, were there, mentioning only a few of our old associates.

C. A. Burgin reports less than one per cent infection from their inspections this year, and F. L. Thomas, State Entomologist in charge of the work is not anxious to institute embargoes, though such were asked for by some of the members. It appears that the incidence of disease in imported colonies is at least no greater than with domestic ones. But stiff

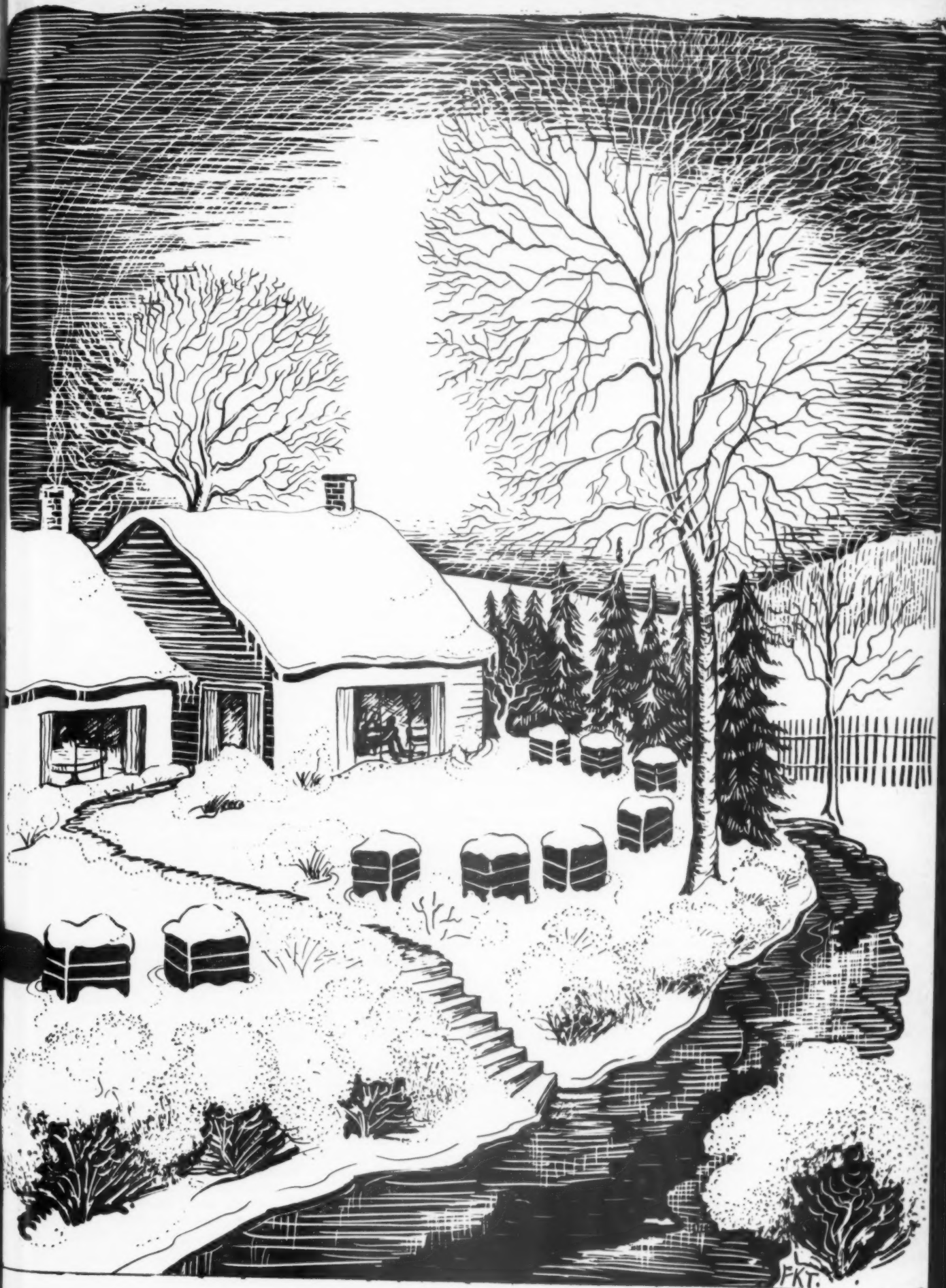
regulations must be followed on such moves. That is only right.

If plans under way mature, the experiment station, outside San Antonio will be moved to College Station in the near future and A. H. Alex, in charge will also be transferred. Alex had some illuminating figures on the effect of bees on seed yields of vetch and Hubam that we hope to present at a later date. S. E. McGregor of the Bee Culture Laboratory, who has hopped and skipped from Arkansas to Arizona to Wisconsin on various investigation problems is now at College Station, we understand on research work on pollens and propolis. He's back home in Texas and likes it. In fact we found very few Texans who would consider pulling up stakes for another state if they could avoid it.

San Antonio is a delightful city, part old and part new, worthwhile from a sight seeing standpoint, as are the oil wells of that region and a quick skip through the rugged Ozarks of Northwest Arkansas, around Eureka Springs, especially with the leaves in brownie colors as they were when we went through.







January, 1949

# Previews of Coming Events

## Westchester County, New York New Rochelle, January 16

The Westchester County Beekeepers Association will hold its regular monthly meeting at 2:30 P. M. on Sunday, January 16, 1949, at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, N. Y.

Election of officers for the coming year will be held at this meeting so all members are urged to attend and vote.

A guest speaker is expected and visitors will be welcome. Refreshments will be served.

B. F. Miller, Publicity.

## North Jersey Bergen County Court House January 17

North Jersey beekeepers will meet at the Bergen County Court House on Monday evening, January 17th, at 8 P. M. It was announced at the executive meeting that this will be a special meeting and the changes to the constitution printed in the recent news letter will be voted upon.

Two good speakers have been obtained for this meeting and the straw skep sent by our recent guest Mr. R. C. A. Croes of Holland will be on display.

Don't miss this meeting. It promises to be one of the best ever.

Rose Leswing, Cor. Secretary.

## North Dakota, Fargo, January 21

27th Annual North Dakota Beekeepers Association meeting to be held at the N. Dakota Agricultural College, Fargo, N. Dakota, Friday, January 21.

Arvid P. Benson, Sec.-Treas.

## Twenty-Seventh Annual Short Course in Beekeeping The University of Manitoba January 24 to February 4, 1949

Registration January 24, 9:15 to 12 Noon and 1:15 to 4:15, Comptroller's Office, 208 Administration Building. First Lecture at 8:40 a. m., January 25, 1949.

### Lecturers

A. V. Mitchener, Professor of Entomology. E. C. Martin, Provincial

Apiarist, Department of Agriculture, Legislative Building, and Lecturer in Entomology. Ed. Braun, Brandon.

University professors in other departments as well as other specialists having an interest in beekeeping will lecture during the course.

Most beekeepers are farmers, but not nearly all farmers are beekeepers. Beekeepers in Manitoba number around 4,600. Less than four pounds of honey are used per person each year throughout Canada. For every pound of honey that is used, probably twenty or more pounds of sugar and other sweets are consumed and yet the farmers in most localities can produce all the honey that their families can use from nectar that goes to waste within honeybee flying distance from the farm home. Honey should be to the western family what maple syrup is to the eastern farm home. Beeswax, furthermore, is a valuable by-product of honey production. To agriculture in general, the value of honeybees as pollinators of legumes, fruits, vine crops, etc., is much greater than the monetary value of the honey and beeswax. Beekeeping should be encouraged wherever these crops are grown as an aid to better seed and fruit production.

A two weeks' short course in Beekeeping in the Department of Entomology at The University of Manitoba should enable any one, who wants to make a start at beekeeping, to make that beginning with some degree of assurance. The experienced beekeeper will find this course of lectures of great practical value. The course is available to all who are interested and over 16 years of age.

About fifty lectures and demonstrations will be given, covering all aspects of the subject of practical beekeeping. The following topics are given as typical of the subjects to be discussed: literature dealing with beekeeping; beekeeping locations; Canadian beekeeping; how to begin; races of honeybees; extracted honey production; comb honey production; management during each season; frames and foundations; swarm control and increase; queen rearing; requeening; food and feeding of honeybees; package bees; classifying and grading honey; judging honey; honey and its uses; chemistry of honey and beeswax; production and uses of beeswax; marketing honey; external

structure of worker, queen and drone; internal structure of the three forms; clover management; bacteria in relation to honeybees; bee diseases; floral structure; pollen and nectar producing plants; factors influencing the honeyflow; relation of honeybees to fruit growing, etc.

(Tuition Fee is \$5.00).

## Colorado Beekeepers Hold Annual Meeting

Honey producers of Colorado held their annual meeting December 5 and 6, at the Auditorium Hotel, Denver, Colorado. The out-of-state speaker was Roy A. Grout, Hamilton, Illinois, who discussed present-day industry problems such as the increasing use of insecticides and herbicides and the relative low price for honey and the present marketing situation. On the bright side for the future of beekeeping were pointed out the increased importance of honeybees, the breeding of improved strains of bees, and improved methods of colony management resulting in larger crops. Mr. Homer J. Henney and Dr. List of the Colorado College of Agriculture and Mechanical Arts told of their progress in establishing a course in beekeeping, of reinstituting extension and research work, and the need for such a program in Colorado. Mr. Ben H. Cook called attention to the fact that agriculture today has the most favorable backing of public opinion that it has ever had. Farm organizations are being respected and looked up to; our future is well entrenched in the economy of the country. He further stated that agriculture must learn to live successfully with an abundance of crops, that it will be up to us to solve our problems of marketing and distribution, and that agriculture must continue to have price support.

The inspection program for Colorado was ably presented to the convention by Mr. Elmer Kraus, state bee inspector, and Mr. F. Herbert Gates, director of agriculture.

The officers of the Colorado Beekeepers' Association, John W. Holzerlein, Jr., president; Ivan Hanson, vice-president; and J. K. McClagherty, secretary-treasurer, were re-elected for 1949. Those present at the meeting voted to support the

work of the American Beekeeping Federation on the basis of \$5.00 minimum or 5 cents per colony.

### Beekeeping Section Annual Farm and Home Week Program

University of Illinois  
January 31, February 1, 3, 1949

#### Monday, Jan'y. 31 - 104 Vivarium Building

- 1:00—Bee Behavior and the Yearly Cycle—V. G. Milum.
- 2:00—Demonstration of Construction of Hives; Examination of Colonies—V. G. Milum.
- 3:00—General Session—Auditorium.

#### Tuesday, February 1

- 8:30—Honeybee Body Structure and How It Functions—V. G. Milum.
- 9:30—The Importance of the Queen and Requeening Colonies—M. G. Dadant.
- 10:00—Movies—Honeybees and Orchard Pollination; Installing Package Bees—V. G. Milum, leader.
- 10:30—Fall, Winter and Early Spring Management of Bees—C. E. Killion.
- 11:30—Adjourn.
- 1:00—Management of Bees in Extracted Honey Production Before and During the Honeyflow—M. J. Deyell.
- 2:00—Management for Comb Honey Production—C. E. Killion.
- 3:00—General Session—Auditorium.

#### Wednesday, February 2

- 8:30—Beginners' Question Box.
- 9:00—Races of Bees and Bee Breeding—M. J. Deyell.
- 9:45—Illinois Honey Plants and Apiary Locations—M. G. Dadant.
- 10:30—The Nature and Care of Illinois Honey—V. G. Milum.
- 11:30—Adjourn.
- 1:00—Preparation of Comb Honey for Market—C. E. Killion.
- 1:40—Honey Marketing—M. G. Dadant.
- 2:20—If I Were a Beginner—M. J. Deyell.
- 3:00—General Session—Auditorium.

#### Thursday, February 3

- 8:30—Beginners' Question Box.
- 9:00—Comb Pests and Adult Bee Diseases—V. G. Milum.
- 10:00—Joys and Sorrows of Keeping Bees—M. J. Deyell.
- 10:45—Brood Disease and Apiary Inspection—C. E. Killion.
- 11:30—Adjourn.
- 1:00—National Beekeeping Organizations—M. G. Dadant.
- 1:30—State and County Beekeeping Associations: Their Functions and Problems—Officers Illinois State Beekeepers' Association: G. H. Cale, Hoyt Taylor, Wesley Osborn.
- 3:00—General Session—Auditorium.

The above is a complete program of beekeeping subjects but visitors may attend other sessions in farming and home making including Poultry, Horticulture, Vegetable Gardening, Agronomy, Animal Husbandry, Veterinary Medicine, Soils, Dairy Production, Dairy Manufacturing, Agricultural Engineering, Farm Machinery, Farm Management, Rural Organization, Forestry, Conservation, Cooking, and other phases of home making.

There is no registration fee or other expense except transportation, board and room.

Thousands attend each year. For more complete information address request to Information Office, College of Agriculture, Urbana, Illinois.

January, 1949

### Pennsylvania State Beekeepers' Association

#### 46th Annual Meeting

Tuesday Morning, January 11, 1949—9:30

Main Show Building, Room E  
Penna. State Farm Show Building  
Harrisburg, Pa.

Chairman—William G. Singer, Norristown, Presiding.

Invocation—Rev. Leonard E. Good, Nur-emburg, Pa.

Address of Welcome—Hon. Miles Horst, Secretary of Agriculture, Harrisburg.

Report of Inspection Work in Pennsylvania—H. B. Kirk, Senior Entomologist, Harrisburg, Pa.

Research in Bee Culture at the College—E. J. Anderson, Prof. of Apiculture, State College, Pa.

Some Aspects of Adult Bee Disease—Chas. A. Reese, Extension Apiarist of Ohio, Ohio State University, Columbus, Ohio.  
Questions and Discussion.

#### Tuesday Afternoon, January 11—1:30

Report of Secretary-Treasurer—H. M. Snavely, Woodbury, Pa.

President's Address—William G. Singer, Norristown.

Election of Officers.

Business Session—(Because of several items of business of importance which will require time for discussion no other topics are listed for the afternoon session.)

#### Tuesday Evening, January 11—6:30

Beekeepers' Banquet. Turkey Dinner, \$1.50  
Colonial Park Evangelical and Reformed Church, on Route 22, three miles East of Harrisburg, on North side of Highway opposite Shoop's Cemetery.

Toastmaster—E. J. Anderson.

Musical Program and Motion Pictures will follow the banquet.

Pictures of the Apiary of Paul S. Ziegler in Florida will be shown by Earl Enoch, Reading, Pa.

#### Wednesday Morning, January 12—9:30

##### Main Show Building, Room E

Reports of Committees.

Swarming and Its Control—W. W. Clarke, Jr., Extension Apiarist, State College, Pa.

Beekeeping in the South—Paul S. Ziegler, Bethel, Pa., & Clearwater, Fla.

Talks to Beginners—Quay Minnich, Red Lion, Pa.

A Breeding Program for Specialized Beekeeping—Chas. A. Reese.

Report of the Annual Short Course at the College—E. J. Anderson.

Report of the Resolutions Committee.

Greetings from Visitors.

Adjournment.

### St. Louis-St. Louis County Association

Maintaining interest and bringing out members to attend meetings is the everlasting problem that confronts every organization. The Executive Board of the St. Louis-St. Louis County Beekeepers' Association, in part at least, has met this problem through planning interesting programs that attract beekeepers.

The August meeting was particu-

larly well attended, and the reason expressed was an actual demonstration of extracting. Equipped with an electric uncapping knife, extractor and the other necessary adjuncts, Trustee Norman R. Mahoney turned the Circuit Court Room in the St. Louis County Court House where we meet into a veritable honey house, and with a well-filled super gave an actual demonstration of his method of extracting.

Increased interest in beekeeping in the St. Louis-St. Louis County area has brought in many new members during the past year, among whom were a large number not thoroughly acquainted with how to handle surplus after it is removed from the apiary.

The St. Louis-St. Louis County Beekeepers' Ass'n. may be unique in some respects in that its membership is largely comprised of backlotters who are particularly interested in learning about management. The business of the organization is in the hands of an Executive Board consisting of President, Vice-President, Secretary-Treasurer, and seven trustees. With this the procedure, seldom are business matters brought before open meeting. The reading of minutes of Executive Committee Meetings keeps the membership informed of the activities of the Executive Board, and regular meetings, thereby, may be devoted almost entirely to demonstrations and discussions, when outstanding authorities on beekeeping are not available for lectures.

Geo. C. Nagel, Secy-Treas.

### Glades Association (Florida) Jan. 5, Moore Haven

Glades Association will hold a quarterly meeting at the Court House, Moore Haven. Members and beekeepers should not fail to attend this important meeting.

Ralph V. Wadlow,  
Sec.-Treas.

### South Arkansas, El Dorado, Feb. 19

The next meeting of the South Arkansas Association will be in the court house in El Dorado, Feb. 19.

### Florida Association, Feb. 13, Tampa

A special meeting, more particulars to be announced later.



# The Postscript

Claude R. Kellogg, who lives in Mexico City, is making some comparisons of bees in the Modified hives with those in smaller hives in common use. He reports that the bees do very well in the big hives and produce much more honey than those in smaller hives. There is no winter in that area but only a change from a wet to a dry season. There is likely to be something coming to the hives at almost any season of the year while the honeyflows come with the flowering of the more important honey plants.

In company with Kellogg, I had a very interesting visit to small apiaries in Indian villages as well as to commercial apiaries in the vicinity of Cuernavaca and other nearby towns. The Indians usually keep their bees in a very primitive manner and Kellogg is trying to teach better methods. The first Mexican apiary that I visited many years ago kept the bees in boxes open at one end. Twice each year all combs were cut out and melted up for the wax and the bees returned to the empty box. There must have been about fifty such boxes, all on platforms about four feet above ground and surrounded by a rough fence. Those visited in company with Kellogg were not so primitive but still much in need of the instruction which he is able to give.

Charles Mraz sends a jar of top quality honey which comes from the Homer Stewart bird's-foot trefoil in Vermont. It is about the color and density of our white Dutch clover honey and has a distinctive flavor which is hard to describe. There is a great deal of interest in this new legume which is making good over a wide expanse of territory. Most certainly the beekeeper stands to profit by the planting of bird's-foot trefoil and perhaps we can look forward to the time when it will be as familiar in the market as white clover was.

In the early years of the Iowa Beekeepers' Association a paper called "Bee Pep" was issued by the secretary, Hamlin B. Miller, of Marshalltown. It was filled with notes about Iowa bees and beekeepers and added much of interest to the activities of

## Frank C. Pellett

the organization. I am anxious to learn whether a complete file of this publication can be found. A single copy is in the library at Cornell University, Ithaca, N. Y., and three copies in the Miller Library at Madison, Wisconsin, according to their catalog. Miller was a printer who became interested in bees as a means of getting into the open air because of ill health. Strange how many beekeepers have originated in this manner.

In the Dadant experimental apiary, Bud Cale (Glory junior), is trying to upset all our conventional ideas about bees. With heated hives he is raising queens in November and mating them by artificial means. Electric wires connect the lines of hives, each of which rests over a heating unit. Inside the hives the bees can be provided with summer conditions but there is little honey to be found in the fields in this frosty weather. Whether this out-of-season activity can be turned to the beekeepers' profit remains to be determined.

Our much traveled E. L. Sechrist, after wandering far afield, has settled down on a farm near Fort Bragg, California. He has lived in Africa, Tahiti, the West Indies and in Maryland as well as California. After several years in the southern part of California he finally chooses the cool and moist regions with a climate much like England. He says no matter where you live there is something lacking in the ideal climate. Now he is looking for some active young person who will be interested in taking over the farm to leave him free to continue his study of beekeeping problems. Few men have observed bee behavior under such widely varying conditions and at 76 he is still looking forward to further investigation.

Inquires have come to me regarding the value of Multiflora rose for bees. This rose is much used as a hedge and makes a stockproof fence. It blooms freely at about the time the white clover is in flower but ap-

parently yields little nectar. Since pollen is abundant at that season it is not likely to prove important to the beekeeper.

Wm. Kyburz, who lives in the mountains of Colombia, South America, writes of a sugar palm which produces for eight or nine years a sap containing 45% sucrose which is nearly three times that of the best cane. The many interesting plants reported from the tropics arouse my interest in a California or Florida garden where one could try the things which we are unable to use because of our severe climate. If it were possible to combine the rich soil of my Iowa farm with the mild climate, what a garden one could have.

W. N. Giegerich has long been trying to establish an apiary at his ranch on the Queen Charlotte Islands in the far North off the coast of British Columbia. They do well for a time and store some honey but then dwindle and die out. He is at a loss for the reason and asks suggestions. Caucasians have done fairly well, as long as two years. Trouble starts in late June and loss occurs in summer as well as winter.

The November Irish Bee Journal reports as follows concerning the new clover which Iowa beekeepers call Pellett clover:

"Sown in early April, it grew well and began to bloom in early September. What is more, the bees worked it vigorously from the start and are still (mid-October) attracted by it. One definite good point in its favor is that the bees appear to work it at much lower temperatures than they do other clovers. That would make it invaluable here in a cold summer such as we get so often."

Thor K. Bergh, nursery manager of the Soil Conservation Service at Winona, Minnesota, writes that there is a lot of southern-grown seed of bird's-foot trefoil, especially from Italy in the market. It is suspected that this southern strain will not prove hardy in Minnesota. To be safe, it is best to insist on northern grown seed. He recommends seed of the New York broadleaf origin.

# Crop and Market

## How Is Honey Moving?

Honey is moving from slow to good, most of the replies being a fair movement of honey, probably slowing up somewhat from November which is not surprising on account of the Holiday Season at the time the reports were turned in. Industrial channels are not probably taking the amount of honey they did before the war, but there seems to be a picking up of the demand on their part, particularly for use in blending with other syrups, and we find this especially in some of the southern areas.

### 1947 Crop On Hand

On the whole, the 1947 crop has moved pretty well out although a few report a little of the 1947 crop still on hand, and in some of these cases desirably so since the crop for 1948 was a failure. In Manitoba, there seems to be some of the 1947 crop still on hand, but generally we would say that it has moved out of the market.

### 1948 Crop On Hand

Ranging from East to West, we find from 20 per cent left to as much as 60 per cent in the intermountain territory. The southeastern and southern areas seem to be quite well cleaned up. A moderate crop there and the fact that most honey is packed as bulk comb honey gives an indication that perhaps we are "missing a bet" by not producing more bulk comb and more of the comb honey which is also in good demand in the northern areas on account of the shortage. We learn of prices as high as \$10.00 per case to grocers for comb honey in some of the areas.

### Honey Prices

We learn of no prices on 1 pound at less than 27 cents out of grocer's hands, and most of them range from 29 cents to 35 cents for the pound jar. In ranging from East to West, the price progressively gets lower on this size jar.

On the 5 pound pails similarly, prices in the East range from \$1.25 to \$1.75 per 5 pound pail, and almost the same prices in the southern areas for the bulk comb. As we go farther west, the general range is a price of \$1.25 dropping down in the prairie states and intermountain to as low as \$1.00, and we have a few quo-

## M. G. Dadant

tations of 90 cents retail, apparently bargain stuff, which is moving more readily at that price. The price on 60 pound cans sold singly is holding up remarkably well such honey as is being sold, most of it going at about 15 cents per pound with one reporter as high as 24 cents.

### Jobbing On Honey

Actually very little jobbing of honey is done in the eastern areas and central west with a short crop as there is no opportunity to do anything but buy rather than sell. We learn of one report of an offer as low as 5 cents on amber honey in Florida, but this is apparently an exception, as most prices range about 9 to 10 cents for amber and 10 to 12 cents for white in the whole eastern and southern areas.

There was a dearth of quotations on honey at the time the reports were sent in which was previous to the Holiday Season, probably most of the packers being fairly well supplied for the period including the holidays.

As we go farther into the plains territory, some reports are of amber honey being offered at 8 to 10 cents per pound and the bulk of white at a minimum of 10 cents, with a maximum of 15 cents. A few scattering reports were made of 8 cents per pound on good white honey. Surprisingly, California is apparently no lower than the intermountain territory on such honey as is held, the quotations being pretty uniform in that respect.

### Summary

One thing which has struck us particularly in the reports coming in is that many beekeepers are sold out of honey and few of them are planning on getting a new supply to take care of their customers. We still believe in the national marketing of honey, but we do believe that the total crop of honey will move far better if beekeepers are interested in taking care of their home market and buying from elsewhere to supply.

While we get a few inquiries for locations of available honey to buy, these are scarce. There should be many more of them on account of the short crop in many localities. Beekeepers who have no honey should be interested to the point where they will want to help dispose of the crop in other sections to maintain a creditable market and to dispose of our crop this year which the government estimates is at least 10 to 15 per cent below that of the previous year, with, on the whole, a better quality of honey throughout.

There are, we believe, more bottlers going into the packaging of honey. By this, we mean a smaller or medium sized individual bottler who is interested in maintaining prices. It is to be hoped that these can prosper and thus the big independent bottler as well as the co-operatives will stand well in line to maintain a price which will yield to the beekeeper a jobbing price of at least the 11 cents per pound for white and preferably 1 to 2 cents per pound above that. Just now it looks like there would not be any difficulty in getting rid of the entire 1948 crop of white honey and as the amber crop is short, this also should move in industrial channels. We still see the effect, however, of some of the unfortunate packaging of poor grades of honey during the war and still being held on the grocers' shelves. We are reaping the harvest of too keen anticipation of bonanza prices on honey regardless of the quality which does not only leave poor honey on grocers' shelves, but in many instances, has disturbed the consumer who no longer is interested since his last purchase was of inferior quality.

The writer himself recently opened a jar of creamed honey which had gone to semi-liquid state and was of a gummy consistency, more like glue than anything else, even though it had been exposed to cold temperatures for several weeks with the anticipation that it would again granulate.

We are now in a transition period, no doubt, but the future certainly does not look as dark as it did six or eight or ten months ago. Of course the beekeeper who had a crop failure this year cannot be over optimistic regardless of price and sale possibilities.

**HONEY WANTED** — Cars and less than cars  
TOP PRICES  
**C. W. AEPPLER CO., OCONOMOWOC, WIS.**

# All Around the Bee Yard

Years have passed since the last page of "All Around the Bee Yard." Each year, almost month after month, some subscriber has asked to have the page appear again. That is just too much pressure. It also develops a bad case of egotism. Finally the boss said "Do it or else." So . . . .

\*\*\*\*\*

Just resting up from the American Federation meeting in St. Louis. It was as near a three ring circus as we have had since Stewart's Indiana Roundups that brought out more than a thousand beekeepers, with their families, to the big tent in Newport. Perhaps we should say that the Federation program was too heavy. Folks just don't like to sit so long; so they gather as far from speakers as they can get, and gab and gab and gab. More showmanship would boost attendance.

But the folks you meet! You can't meet them all. When you get home you remember scores you wanted to speak to but did not. Since the cream of the beekeepers come to these big meetings, one gets the impression that he can well improve his beekeeping if he tries the methods that have made others successful. It is like trying to pick one way from an encyclopedia. Just can't be done. The extensive man who has developed a workable system has gone along one path; and the intensive man has gone in the opposite direction. Sometimes both the intensive and the extensive beekeeper come out with nearly the same profit, but one does it with fewer bees than the other. One gives close attention to the bees; the other almost neglects attention. Poor me! I can't decide what I should do. Since we are all looking for the fullest pot at the end of the rainbow perhaps we should cut the cloth to fit the figure—solve our own problems in our own way.

\*\*\*\*\*

So much emphasis now on how to sell honey at a profit. One large beekeeper said he lost money on 15c honey; a three hundred colony beekeeper wanted to know what it is all about. He had a seventy-five pound crop, sold it himself and was happy. The boys who took the honey from some yards and put it on the yards that did not even make winter stores, were the ones who were ready to cry on anybody's shoulder.

## G. H. Cale

The conservationists are with us, no doubt about it. They know that soils are thin and legumes are needed to restore fertility; that the wide use of legumes means that there must be an abundance of legume seed. And there is no abundance! To them the honeybee means the difference between an impoverished agriculture and a bountiful agriculture. I think the beekeeper is far behind the conservationist in his concepts. He does not see the picture. He is so used to securing honey crops and selling them that he is finding it hard to change his habits and fit his management to seed production. He doesn't know the factors involved in seed production. Seems to me it is as much his job to find out how to produce seed successfully as it is the job of the seed producer.

\*\*\*\*\*

Gol dang it, no one talked production on this Federation program. You had to gang up with the boys to talk production. The sum of what they had to say was that each one is looking for a way to get larger crops at less cost. Often the intensive operator who works by himself puts in terrific hours with relatively few bees. If he paid for labor, a heavy cost item now, he would quit the business or he would become a part time beekeeper whose bees would number less as his other interests increase. So the measure of the factors in management remains, first and last, an economic one.

\*\*\*\*\*

There are a few rank enthusiasts to whom bees are strictly a pleasure; there are many to whom bees are a pleasure and also a profit; there are some to whom bees are the sole support for all that life demands. The great middle class are the ones who back the industry; who make it go when it goes; who think things out. They have enthusiasm and enough reality to put on harness. Of course, there are countless numbers of in and outers most of whom start and stop to be replaced by others who also start and stop. But from them comes the replacements that make up the advancing throng.

Perhaps you think Harry Starnes is a screw ball to champion hive heaters. He talks and acts like a solid fellow so he talked us into hive heaters. So did Sechrist. Heaters surprised us but we are not ready to say much about them. In this issue Starnes uses fancy figures to draw a parallel between the heat requirements of man and bee. Perhaps his conception has a base. As far as I am concerned, I don't care. But when he says that there is a lower limit where the need for heat starts, just our old idea of the cellar, and it depends on whether we want brood or quiescence, then I begin to listen. It makes sense and it makes the cost of heat shrink into the realm of possibility. Someday we'll make some big noise about heaters; meanwhile, we will keep on the trial and error basis.

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"All Around the Beeyard" was intended for the beginner; sort of a calendar advice—do this and that, month by month. It got away from that fast and graduated into a mill for miscellaneous thoughts about beekeeping. Got to be post-graduate stuff, in fact. Brought in things those with years in the background consider the thoughts of the day. So it remains.

But the poor bewildered beginner is just as bewildered as ever. Remember that first day you faced the bees? It was a strange new thing. At a bee meeting you were a lost soul in a strange place. Then, at last, you spoke the language! You get chesty. Now you are a beekeeper and you look with a smile at the beginner and his misconceptions and his funny didoes.

We hope to have something really worth while for the beginner just as soon as we can square up to it.

\*\*\*\*\*

Ever try to fill space in a printed page? It looks easy but it is one of the most complicated jobs there is. You must be worthwhile; you must be just so long winded but no windier; you must not become monotonous or boresome; you must . . . just a whole bag of musts. And the hardest kind of writing is a department that comes along once a month. Try it sometime. Be "seeing you" in February.







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"YOU CAN PAY LESS—BUT  
YOU WON'T GET THE BEST"  
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	Queens	2-lb. with queen	3-lb. with queen
1-24	\$1.40	\$4.50	\$5.60
25-99	1.30	4.25	5.30
100 up	1.20	4.00	5.00

## FOUR FRAME NUCLEI

Two, four, six or ten nuclei ..... \$7.50 each  
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We guarantee our combless packages and nuclei to give complete satisfaction in every respect. All shipments are accompanied by a certificate of inspection and are guaranteed to be disease free. Live delivery and shipment on date booked are assured.

Our nuclei consist of four combs containing brood, honey and pollen and two lbs. of bees with a laying queen. All nuclei are shipped in lots of two or multiples of two, and are crated two nuclei in a single ten frame hive body, partitioned in the middle and screened top and bottom.

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## Menke to Washington Position



Herman F. Menke, graduate of the University of California, researcher in insecticides and teaching assistant under Dr. Eckert comes to the State College of Washington, with his main work in problems of pollination, seed crops and bee poisoning. He has a commercial beekeeping background from five summers in honey production in northern California and from operating 400 colonies in Modoc County, California.

## Centennial Exhibit



The centennial honey and beekeeping exhibit by Walter Diehnelt in Wisconsin this year was tops in showmanship. This pyramidal display was professional; note the liberty figure, the candle edging, the pyramidal display, the hexagon base, and the lighting.

**Healthy Italian Queen Bees**  
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Quantity	2-lb. Pkg.	3-lb. Pkg.	4-lb. Pkg.	QUEENS
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1 to 24	\$1.40	\$4.25	\$5.35	\$6.45	\$7.55
25 to 99	1.30	4.00	5.10	6.20	7.30
100 up	1.20	3.75	4.75	5.95	7.05

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	1-24	25-99	100-up
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Queen only	1.40	1.30	1.20

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2 Cabinet-type oven, each with 48 five-gallon can capacity. Asbestos-covered, steel construction. Complete with steam coils and glass-lined pans.

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### Italian Bees and Queens

We are ready to book your order of package bees and queens for spring delivery. Our shipping date opens April 1st, 1949.

**OSCAR ARNOUVILLE**  
BOX 35 HAMBURG, LA.

BRIGHT YELLOW

### ITALIAN BEES AND QUEENS

We are ready to book orders of 2, 3 or 4 lb. pkgs. of bees with queen for spring delivery. Our shipping date opens April 1st, 1949.

**ALVIN J. DUCOTE,**  
Hamburg, Louisiana

## Italian Package Bees and Queens

FOR 1949

Quantity	1-23	24-98	99 and over
2-lb. package with queen	\$3.85	\$3.70	\$3.50
3-lb. package with queen	4.85	4.70	4.50
Queens only	1.25	1.20	1.15

For queenless packages deduct the price of queen.  
Packages are shipped express collect. Queens postpaid.

Terms: \$1.00 per package when order is booked, the remainder at least 10 days prior to shipping. Cancellations are in order at any time prior to actual shipping with full refunds made promptly.



## GIRARDEAU APIARIES

(Successors to M. Pettit)

TIFTON, GEORGIA

We Specialize In

### Fancy Comb Honey Production and Pollen Supplements

Comb Honey Queens! (Queens that have been bred especially for comb honey for over twenty-five years). Comb Honey Equipment, Soy Flour, Pollen Traps, Brewers' Yeast, and Pre-Mix Supplement.

**Killion & Sons' Apiaries**  
PARIS, ILL.

### —HONEY WANTED—

CARLOADS AND LESS THAN CARLOADS  
Send samples and quote best cash price delivered to us. All grades.

**HONEY SALES COMPANY**

1806-08 No. Washington Ave.  
Minneapolis 11, Minnesota

## ?? 1949 ?? Are you good at GUESSING?

if not use

**WEAVER'S BEES AND  
QUEENS**

Now booking orders for  
1949

**CAUCASIANS,  
ITALIANS**

**WEAVER APIARIES**  
Navasota, Texas



Queens

**SUNKIST**

Packages

Italian

Early ordering gets the most favored shipping dates. Expect to start shipping March 15. **DON'T DELAY.**

2-lb. package with queen \$4.00. 3-lb. package with queen \$5.15  
Queen (each) \$1.15

Write for prices on quantity lots.

Top Quality—Satisfaction Guaranteed

**SUNKIST BEE COMPANY**

Convent, La.

### BETTER BRED QUEENS THREE-BANDED ITALIANS

Our Better Bred Stock has proven its merits. We have shipping capacity for 5,000 packages. Book your orders early and get our best shipping dates. Our prices are in line with honey prices. Let us quote you.

**CALVERT APIARIES**

Calvert, Alabama

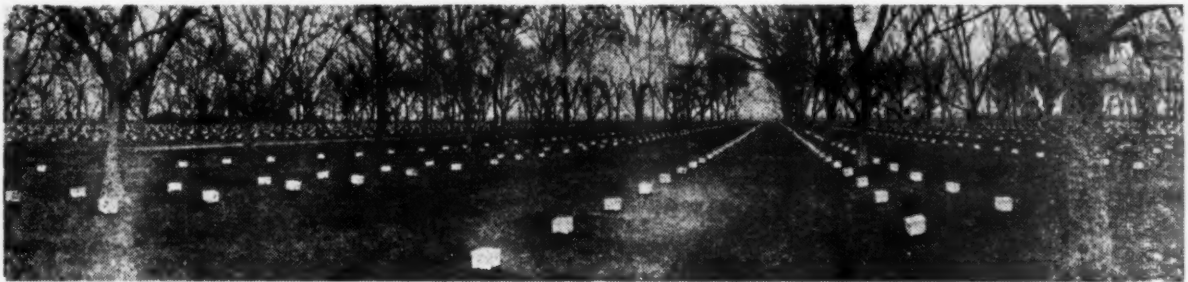


Photo shows a part of one of our queen yards with 10,000 nuclei

## ● ITALIAN BEES YOUNG QUEENS ●

RESERVE YOUR 1949

DATE NOW

No Deposit Required  
For Early Booking.  
Large Queen Orders  
Solicited.

1-24  
25-49  
100-up

Queens  
\$1.40  
1.30  
1.20

2-lb. with  
queens  
\$4.50  
4.25  
4.00

3-lb. with  
queens  
\$5.60  
5.30  
5.00

4-lb. with  
queens  
\$6.70  
6.35  
6.00

5-lb. with  
queens  
\$7.80  
7.40  
7.00

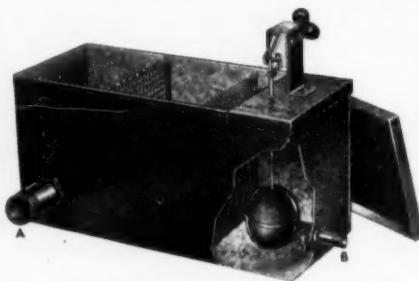
For price of queenless packages, deduct the price of the queens.

**OVERBEY APIARIES,**

Louisiana's Largest Package Bee  
and Queen Shippers

**Bunkie, La.**

## The Woodman Automatic Pump Control & Straining Tank



with the WOODMAN Vane Lifter Type Pump,  
will not churn minute air bubbles in your honey

Ward Smith, without knowing it, has been writing some very good advertising copy, in his Beginners Note Book. See page 17 December Beekeepers Magazine.

We have seen numerous beemen go to much expense, extra work and inconvenience in building ramps on flat locations to get the extracting up for gravity draining. This is what prompted us to devise this equipment.

Manufactured by

**A. G. WOODMAN CO.**

**Grand Rapids, Michigan**

## 1949—GOOCH'S BEST PACKAGES AND QUEENS—1949

Better prepared to serve you with  
the best and the best of service.

Your choice of Three-Banded and Bright-Yellow Italians. Remember, each queen will be the daughter of a queen that has produced 300 lbs. or more of surplus honey in one season. Determine your needs and place your order early to be assured of choice shipping date. Write for our special discount on large orders.

LOTS 1-10

2-lb. package with queen .....\$4.40  
3-lb. package with queen ..... 5.50  
QUEENS (each) ..... 1.35

Full weight packages and live delivery  
guaranteed.

**JESSE E. GOOCH & SONS**

**Route 3, Pine Bluff, Arkansas**

## Light Colored ITALIAN PACKAGE BEES and QUEENS

Bees, Young Bees, Extra Weight, Immediate Service, Fair Prices. We think we have done an excellent job of shipping bees all over the U. S. A. and Canada for many years but we are always trying to improve both stock and service. If you want satisfaction in bees that's what we try to give—Quiet Bees, Healthy

Live delivery is always guaranteed and a health certificate accompanies each package.

10% deposit, balance sent before  
shipping date.

Quantity	2-lb. Pkg.	3-lb. Pkg.	4-lb. Pkg.	QUEENS
1-24	\$3.95	\$4.95	\$6.10	\$1.15
25-up	3.75	4.80	5.90	

**E. J. BORDELON APIARIES**

**Box 33, Moreauville, La.**



## THRIFTY BEES

BOOKING ORDERS FOR 1949

Combless packages and queens. Three-banded ITALIANS only. REMEMBER—THRIFTY bees are guaranteed to please.

**W. J. Forehand & Sons**  
Fort Deposit, Alabama  
Breeders Since 1892



**WEST COAST BEEKEEPERS**  
Buy Quality  
**Lewis-Dadant Products**  
Out of Stock  
**F. O. IRICK**  
609 S. H. St.  
Tulare, California

1949

### ITALIAN PKG. BEES & QUEENS

2-lb. with queen ..... \$4.00  
3-lb. with queen ..... 5.00

### LOHMAN BEE CO.

Rt. No. 1, Box 340C Loomis, Calif.

## G. B. Lewis Wooden Goods!

DADANT'S WORLD FAMOUS CRIMP WIRED FOUNDATION—Their 85 years' experience is your safeguard.  
Catalogue on request.

### Dotson's Apiaries

3059 W. Roxboro Rd. N. E., Atlanta, Georgia

## Italian Package Bees and Queens

Live delivery and health certificate guaranteed. Prices: 20% with order, balance 10 days before shipping date. 2-lb. pkg. with queen \$3.75; 3-lb. pkg. with queen \$4.75; 4-lb. pkg. with queen \$5.75.

### DAIGREPONT APIARIES HESSMER, LOUISIANA

**ROOT BEE SUPPLIES**  
Comb and Cut Comb Packages  
Honey Containers in all sizes.  
Prompt Service.

**Michigan Bee & Farm Supply**  
BOX 7 LANSING 1, MICHIGAN  
Successor to M. J. Beck Co.

3-BANDED

### ITALIAN BEES AND QUEENS

We are now booking orders for 1949.  
Write for prices.  
Book your orders now.

**J. P. CORONA**  
Box 124 Kenner, Louisiana

### HIGH QUALITY

## Italian Bees and Queens

If you want High Quality Queens and Package Bees for 1949, at a reasonable price, send your inquiry and requirements to

**Carlus T. Harper**  
NEW BROCKTON, ALABAMA

# Queens Package Bees

## CAUCASIAN-ITALIAN

Reared from the best honey-getting strains by the best methods and highest skill. Honest weight—fast service.

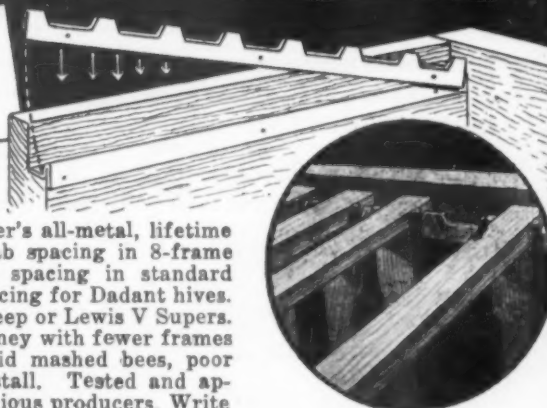
Queens .....	\$1.40
2-lb. package with queen .....	4.50
3-lb. package with queen .....	5.60

Regular quantity discounts.

## COFFEY APIARIES WHITSETT, TEXAS

## You save ALL WAYS with the STOLLER *Slip-on* FRAMESPACER

Stoller Spacers fit over, or replace, any standard frame rest or tin rabbet. 16 styles and sizes.



Step up profits! Stoller's all-metal, lifetime spacer permits 7-comb spacing in 8-frame hives; 8 or 9 comb spacing in standard hives, and 9-comb spacing for Dadant hives. Made to fit shallow, deep or Lewis V Supers. Get more wax and honey with fewer frames and less work. Avoid mashed bees, poor spacing. Easy to install. Tested and approved by profit-conscious producers. Write for literature and prices.

## STOLLER *Honey Farms* LATTY, OHIO

### ITALIAN BEES AND QUEENS

	1-9	10 up
2-lb. packages .....	\$3.60	\$3.50
3-lb. packages .....	4.60	4.50
Queens .....	1.10	1.00

We guarantee full weight, prompt shipment, live delivery and health certificate with each order.

Let us make you one of our satisfied customers.

**MITCHELL'S APIARIES**

Box 391, Bunkie, La.

A trial will convince you—A-B-J ads produce results

# TANQUARY'S ITALIAN BEES AND QUEENS

ORDERS NEVER TOO LARGE OR TOO SMALL

Conditions are getting better right along in the honey market, and let's not neglect our equipment but have it filled with bees and good young queens this spring. Time is at hand to place that order for bees and queens. And we have never been in any better shape, so let us hear from you.

## ORDER EARLY

Quantity	Queens	2-lb. Pkgs.	3-lb. Pkgs.	4-lb. Pkgs.	5-lb. Pkgs.
1 to 24	\$1.35	\$4.50	\$5.60	\$6.70	\$7.75
25 to 99	1.25	4.25	5.30	6.30	7.25
100-up	1.15	4.00	5.00	6.00	7.00
Tested	2.00 each				

HEALTH CERTIFICATE WITH EACH SHIPMENT

QUEENS POSTPAID

PACKAGE BEES EXPRESS COLLECT

QUEENLESS PACKAGES DEDUCT PRICE OF QUEEN

## TANQUARY HONEY FARMS, Inc.

Western Union, Lena, S. C.

Telephone, Estill, S. C. 109

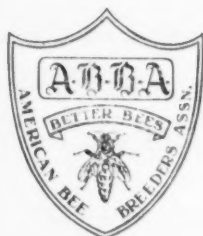
## Puett's Packages and Queens

PRICES—	1 to 9	10 to 49	50 to 99	100 & above
2-lb. package with queen	\$4.60	\$4.35	\$4.15	\$4.00
3-lb. package with queen	5.60	5.35	5.15	5.00
4-lb. package with queen	6.60	6.35	6.15	6.00

Extra queens—\$1.25 untested, \$2.00 tested. For queenless packages deduct \$1.25.

Loose-Queen packages (late shipment only) add \$1.00.

\$1.00 deposit holds shipping date, balance payable before shipment. Refunded if cancelled 10 days before shipping date.



Puett now manufacturing division board feeders. Made of Masonite, glued and nailed to gum frame.

PRICE—75 Cents

### The Puett Co.

Dept. A

Hahira, Ga.



## ITALIAN PACKAGE BEES AND QUEENS FOR 1949—

RESERVE YOUR SHIPPING DATE NOW FOR THE COMING SEASON.

Write us for quotations. Reliable dependable service.

B. J. BORDELON APIARIES

Moreauville, Louisiana

## Leather Colored Italians

### Package Bees and Queens

U. S. A. and Canadian  
Prices

2-lb. ....	\$4.00
3-lb. ....	5.00
4-lb. ....	6.00
Queens .....	1.25

Foreign countries, please add  
20 per cent to regular prices.

**O. K. Anderson & Son  
Apiaries**

Box 193

COFFEE SPRINGS, ALA., U.S.A.



## Italian Bees and Queens

**WICHT APIARIES**

406 Miller St., Hattiesburg, Miss.

## Grapefruit - Oranges

RED BLUSH Grapefruit \$3.50 a  
bushel. Pink-meated, seedless, tree-  
ripened. Tree-ripened Oranges \$4.00  
a bushel.

MIXED BASKETS of Red Blush  
Grapefruit and Oranges at \$3.75 a  
bushel. All F. O. B., Brownsville.

Express rates \$1.34 to \$2.58 a  
bushel, depending on your location.  
Reference, Dadant & Sons, Hamil-  
ton, Illinois, who purchase my fruit.

Complete price list on request.

**EDWARD E. BARTLETT**  
GROWER-SHIPPER  
BROWNSVILLE, TEXAS

## Honey Extractors and Extracting Equipment

**The Neises Company**

P. O. Box 249 Marshfield, Wis.

**Renew Your Subscription**

# BEES AND QUEENS

*Italian, Caucasian and Resistant*

Over 30 years a shipper.

Send for FREE CIRCULARS

## Blue Bonnet Apiaries

Rt. 1, Box 23

WESLACO, TEXAS

### GASPARD'S Quality Italian Queens and Package Bees

We are booking orders for spring 1949 delivery. Only 20% with order, balance 10 days before shipping time. We guarantee live delivery and health certificate accompanies each shipment. Prices as follows:

	1-49	50-up
2-lb. package with queen .....	\$3.75	\$3.50
3-lb. package with queen .....	4.75	4.00
4-lb. package with queen .....	5.75	5.00
5-lb. package with queen .....	6.75	6.00
Queens \$1.25		

**GASPARD BEE CO.**

Hessmer, Louisiana



## Honeyflow Bee Feeder

\$2.50 Everywhere in  
United States.

Look for it at your bee  
supply dealer.

If he doesn't have it  
write

**W. O. GOEBEL**  
KNOXVILLE, IOWA

## ITALIAN QUEENS . . . BEES

Line bred since 1927. Queens raised from stock of 200 to 300 lbs. after pulling bees all spring up into July. Queens mated to drones from similar selection. Give me your orders early to assure your preferred shipping date.

2-lb. bees with queen .....	\$4.50
3-lb. bees with queen .....	5.50
Queens .....	1.35

4-frame nucs 2 to hive bodies \$7.00 each,  
you furnish body.  
Health certificate with all  
shipments.

**HOMER W. RICHARD**

EL DORADO, ARKANSAS  
AFTER MARCH 1ST GOULD, ARKANSAS

### HIGH GRADE ITALIAN

#### Package Bees and Queens

We are ready to handle your 1949  
order. Write and reserve that choice  
shipping date.

**E. J. COCO**  
HAMBURG, LOUISIANA

KEEP PERMANENTLY YOUR FILES

## The American Bee Journal

Each copy snaps in easily when you are  
through with it. So as the journals come  
in you can file them readily. Get two.  
One for this year and one for the year to  
come. Blue cloth with name stamped in  
gold. Price postpaid in U. S. A. \$1.50.

AMERICAN BEE JOURNAL, Hamilton, Ill.



# JENSEN'S PACKAGE BEES AND QUEENS



## Magnolia State Strain Italians

Member American Bee Breeders Association which is your assurance of quality and fair treatment. It will be to your advantage to buy from breeders displaying the ABBA emblem. Don't delay placing your order, price adjustments can be made later if there is a general change.

We promise there will be no advance over prices prevailing the past three years despite rising costs.

**DR QUEENS:** backed by six generations of controlled instrumental mating. Progeny tested for honey production, temper, resistance to the foulbroods, and other valuable qualities. Priced 25 cents each above list below.

	Queens	2-lb. with queens	3-lb. with queens
1-24	\$1.40	\$4.50	\$5.60
25-99	1.30	4.25	5.30
100-up	1.20	4.00	5.00

## JENSEN'S APIARIES

MACON, MISSISSIPPI

"The business QUALITY built"

# THE HIVE AND THE HONEYBEE

Here are facts you never knew before; here are things to do with bees you never read or tried. There is no other book like it. It took four years to bring all the material and illustrations together for this brand new volume.



In 650 big 6x9 pages, you begin with beekeeping history; the honey industry today; how to start with bees; locations; yard management through the year; honey sources; crop handling; honey selling; diseases and enemies of bees; honey as food; how to winter bees in new ways . . . modern beekeeping in every respect and step-by-step. The combined work of the best authorities in practice and in scientific theory to be found today. Price \$4.00.

With American Bee Journal (1 year) \$5.00.

**THE AMERICAN BEE JOURNAL : HAMILTON, ILL.**

# Package Bees Italian Queens

FOR 1949

Queens from proven high producing stock with overweight packages of young bees. Choose your shipping date and book your order with price to be agreed on later.

Live delivery, prompt shipment, and complete satisfaction assured when you place your order with us.

## GEO. A. HUMMER & SONS

ESTABLISHED 1892

PRAIRIE POINT, MISS.

Wire or phone Macon, Miss.

## ITALIAN BEES AND QUEENS

We are booking orders for spring 1949. Only 20% with order, balance ten (10) days before shipping date. Health certificate with each shipment and live arrival guaranteed. 2-lb., pkgs. with queen \$3.50; 3-lb., \$4.50; 4-lb., \$5.50.

**RED DIAMOND APIARIES**  
MANSURA, LOUISIANA

Wishing You

A

HAPPY

and

PROSPEROUS

NEW YEAR

• • •

The A. I. Root Company  
OF IOWA  
COUNCIL BLUFFS, IOWA

## PACKAGE BEES AND QUEENS BRIGHT THREE-BANDED ITALIANS

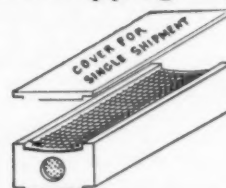
Prices	Queens	2-Lb. with Queens	3-Lb. with Queens
1 to 24,	\$1.40	\$4.50	\$5.60
25 to 99	1.30	4.25	5.30
100 up	1.20	4.00	5.00

We guarantee safe arrival. For larger packages write for circular.

**TAYLOR APIARIES**

Box 249 Luverne, Alabama

## Pinard's Nailless Queen Bee Shipping Cage



**A. B. PINARD, Manufacturer**  
1794 Hicks Ave. San Jose, Calif.

## DIXIELAND'S LEATHER-COLORED ITALIAN BEES AND QUEENS

Write for prices and booking dates

**DIXIELAND APIARIES**  
Greenville, Alabama

**CHOOSE LABELS WISELY—  
A-B-J LABELS GET RESULTS**

1911— DUPUIS —1949  
**PACKAGE BEES & QUEENS**  
 THREE-BANDED ITALIANS—85%  
 baby bees, 5% teachers. Back to pre-  
 war prices: 2-lb. pkg. with queen  
 \$4.00; 3-lb. pkg. with queen \$5.00.  
**DUPUIS APIARIES**  
 BREAUX BRIDGE, LOUISIANA

THE ONLY WORTHWHILE  
**QUEEN EXCLUDER**  
 on the market



Chrysler's All Steel Electric  
 Welded Queen Excluder al-  
 lows maximum bee passage,  
 better ventilation, more honey  
 production. No wood, no sharp  
 edges to injure bees, no burr  
 combs. New rust proofing  
 process. So durably made and  
 accurately spaced that it is per-  
 manently Queen excluding and  
 will last a lifetime. Sales in-  
 creasing steadily each year. For  
 earliest delivery place your  
 order at once. Send for circu-  
 lar E-3.

**W. A. Chrysler & Son**  
 Chatham - Ontario - Canada

THREE-BANDED ITALIANS  
**Package Bees and Queens**  
 2-lb. pkg. with queen \$3.50; 3-lb. pkg. with  
 queen \$4.50; 4-lb. pkg. with queen \$5.50.  
 Only 20% down to book your order, balance  
 15 days before shipping date. Health  
 certificate, and live delivery guaranteed.

**ROY APIARIES**  
 HESSMER, LOUISIANA

Ship Your  
**HONEY & BEESWAX**  
 to us. Top prices paid, prompt  
 remittance. Also welcome your  
 old comb shipments to be ren-  
 dered into wax at very nominal  
 charge.

**THE FRED. W. MUTH CO.**  
 229 Walnut Street  
 CINCINNATI 2, OHIO

THREE-BANDED ITALIAN  
**Package Bees & Queens**  
 FOR 1949—Write for Circular  
**Bessemer Apiaries**  
 4300 A Raleigh Rd. Greensboro, N. C.

Italian Package Bees  
 and Queens  
**F. E. MORRISON**  
 Rt. 2, Box 103 Auburn, California

— Advertise in the A-B-J —

**ARE YOUR BEES ROUGH CHARACTERS?**  
**BETTER GET CAUCASIANS**

Take the sting out of beekeeping and throw away your armor plate. Make yours  
 a more pleasant occupation. Yes, and get more honey at the same time.

**FOR BETTER CAUCASIANS order your queens from**  
**THOS. S. DAVIS, Rt. 7, Box 3914, Sacramento, Calif.**  
 Breeder of Caucasians Since 1928

**YOU CAN BE SURE IF ITS "SUREWAY"**  
**A NEW "SUREWAY" OF INTRODUCING QUEENS**



Mr. Allen Dyer, one of California's outstanding commercial beekeepers says:  
 "I have been using your "Sureway" cages for queens for the past two years. I would like  
 to express my complete satisfaction with these cages. I have found that the queens re-  
 main in better condition and that I get almost 100% acceptance with this cage which is  
 much better than I ever got with wooden cages. The better acceptance eliminates a  
 great deal of checking back and saves time.  
 "This cage does not spoil the combs when it is removed. The construction also saves  
 time inasmuch as the queen has access to the cells and is usually laying within 24 hours  
 from the time she is caged.  
 "I have used 2500 of these cages to date (in the past two seasons) and can strongly recom-  
 mend them to any beekeeper."

Allen Dyer.

**INSIST THAT YOUR QUEENS BE SENT IN "SUREWAY" CAGES and get 99 to 100 per  
 cent acceptance—no need to return to the hive to remove the cage—the bees do it.**

**SUPERIOR HONEY CO.**  
 5201 District Blvd. Los Angeles, Calif.  
 WRITE FOR FREE SAMPLE.

● **QUEENS—PACKAGE BEES FOR 1949** ●  
 ESTABLISHED 1883

Maximum production is most easily assured with superior bees and queens.  
 That's one way we try to help you make money. Superior bees and queens is our  
 motto at all times. We like to have 50 per cent deposit and balance before shipping  
 date. We believe this is fair to all—as we like to plan and ship the day you want  
 shipment. Price scale:

	1 to 10	10 to 50	50 to 100	100 up
2-lb. package and queen	\$4.50	\$4.30	\$4.10	\$4.00
3-lb. package and queen	5.50	5.30	5.10	5.00
All untested queens	\$1.25			\$2.00

**THE VICTOR APIARIES** Uvalde, Texas

**POLLEN SUBSTITUTE**

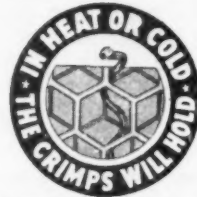
	5-Lbs.	10-Lbs.	25-Lbs.	50-Lbs.	100-Lbs.
Brewers yeast Soy flour (expeller) mixed	\$ .75	\$1.50	\$3.00	\$5.50	\$10.00
Brewers yeast	1.50	2.75	5.50	8.50	16.00
Soy flour (expeller)	1.40	2.80	5.60	8.80	17.25
Skim milk, suitable for humans	1.50	3.00	6.00	11.00	21.00

Send parcel post charges if you want shipment by mail. Please allow two pounds extra  
 for packing. All orders sent collect.

**M. Y. S.** Bainbridge, New York



Save money and increase  
your crops with



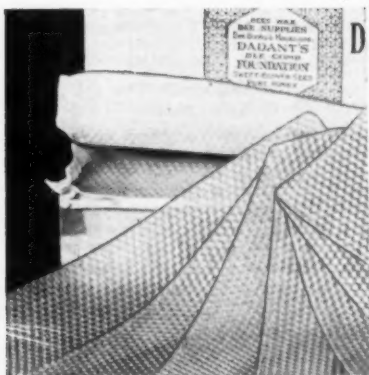
# DADANT'S CRIMP-WIRED FOUNDATION

Supported with wires of crimped spring-steel through every inch of a pure beeswax sheet Dadant's Crimp-wired Foundation gives you everlasting combs that save you money every year. Good queens lay in them freely, producing all worker brood. The result is large field force and greater crops.

Quickly  
Inserted in  
the Frame

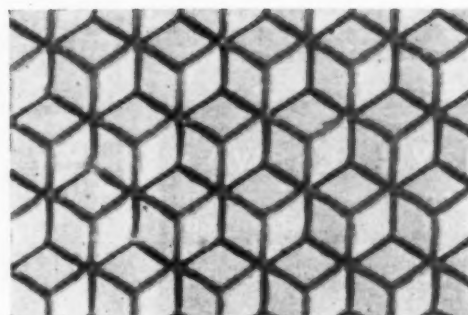


Stands Heavy  
Loads and  
Rough Use



## SURPLUS FOUNDATION

Only the lightest-colored and the sweetest, cleanest beeswax goes into Dadant's Surplus Foundation. It quickly becomes a delicate and edible part of fine section comb and bulk comb honey.



## PLAIN FOUNDATION

For those who prefer plain (unwired) foundation, this carefully milled, hand-sorted foundation with nice straight rows of uniform cells is ideal. It is carefully packed in tissue to reach you without damage.

**Dadant & Sons**

**Hamilton, Illinois**

### WANTED

#### "STANDARD RABBIT & PET JOURNAL"

Bring you the Monthly News of Rabbit,  
Cavy, Small Stock, Poultry, Birds  
and other Pets.

STANDARD RABBIT AND PET JOURNAL  
Box 281 MILTON, PA.

### KOEHNEN'S

Package Bees and Queens  
For Quality and Service

**KOEHNEN'S APIARIES**  
GLENN, CALIFORNIA

### BEE SUPPLIES

A. H. RUSCH & SON CO.  
REEDSVILLE, WISCONSIN



## • ATTENTION • BEEKEEPERS

We can give immediate shipment  
on the following items from  
stock on hand

Hive Bodies (Empty) .....	\$1.20
Bottom Boards .....	.90
Covers .....	.90
Shallow Extracting Supers (Empty) .....	.95
Hoffman Brood Frames (Per 100) .....	9.00
Shallow Extracting Frames (Per 100) .....	9.00
Comb Honey Supers (Empty) .....	.95

Our 1949 price list is now ready for distribution. Write for your copy.

## HAGEN-LUNCEFORD MFG. AND SUPPLY

2500 North Fourth Street  
Coeur d'Alene, Idaho

## Knight's

### THREE-BANDED LEATHER COLORED ITALIAN BEES

	Queens	2-Lb. Pkg.	3-Lb. Pkg.	4-Lb. Pkg.	5-Lb. Pkg.
1 to 24 .....	\$1.40	\$4.50	\$5.60	\$6.70	\$7.80
25 to 99 .....	1.30	4.25	5.30	6.35	7.40
100 up .....	1.20	4.00	5.00	6.00	7.00

The above prices include the queen with each package. For queenless package deduct the price of the queen.

Prompt service, full weight packages, young laying queens, safe arrival and your satisfaction guaranteed.

No Charge for Clipping

JOHN T. KNIGHT  
Hayneville, Alabama

## BE SAFE

By buying full weight packages of young  
THREE-BANDED ITALIAN BEES. As  
thrifty as any and a pleasure to work with.  
Health Certificate with each  
shipment.

We guarantee satisfaction and live delivery,  
also delivered on date you want them.

Queens are select, untested, reared by us,  
and shipped, caged with bees.

### PRICES

	Queens	2-lb. pkg. with queen	3-lb. pkg. with queen
1 to 24 .....	\$1.15	\$4.00	\$5.00
25 to 49 .....	1.05	3.75	4.75
50 to 99 .....	1.00	3.50	4.50
100 up .....	.90	3.25	4.25

## HOMAN BROS.

Rt. 2                      Shannon, Mississippi

### ITALIAN PACKAGE BEES AND QUEENS

All Shipping Dates Open

	Queens	2-lb. with queen	3-lb. with queen
1-24 .....	\$1.40	\$4.50	\$5.60
25-49 .....	1.30	4.25	5.30
100-up .....	1.20	4.00	5.00

For price of queenless packages, deduct  
the price of the queens

## SOUTHERN APIARIES AND SUPPLIES COMPANY

Chatom, Alabama

# Italian Queens

VIA AIR MAIL  
WORLD ROUND

\$1.25 each U. S. A. and Canada

South America \$1.40 each

Europe \$1.70 each

You too can get quality queens in 1949  
by ordering here. Ask your neighbor.

(MISS) LENORA ANDERSON  
Samson, Alabama

## Want to increase your honey crop?

Use our LEATHER ITALIAN BEES and QUEENS. We solicit both small and large orders. For 1949 same quality, same service. Be sure of your desired shipping date by booking now.

	Queens	2-lb.	3-lb.	4-lb.
1-24	\$1.30	\$4.25	\$5.30	\$6.35
25-99	1.20	4.00	5.00	6.00
100-up	1.10	3.75	4.70	5.65

All package bees shipped express collect unless otherwise specified. We guarantee live arrival.

EVANGELINE BEE CO.  
Breaux Bridge, Louisiana

## LADY-LIKE CAUCASIANS



## CAUCASIAN APIARIES

Castleberry, Alabama

Breeders of the best in  
CAUCASIAN  
BEES AND QUEENS

QUEENS	\$1.40
2-POUND PACKAGES	4.50
3-POUND PACKAGES	5.60

## 3-Band Italian Package BEES

Full Weight. Prompt Shipment. Young Bees

State health certificate with each shipment. Live arrival guaranteed. Replacement or refund made promptly upon receipt of bad order from your express agent.

### 1949 PRICES

#### WITH YOUNG LAYING QUEENS

Lots of	2-lb.	3-lb.	4-lb.	5-lb.
1-29	\$3.50	\$4.40	\$5.50	\$6.50
30 or more	3.20	4.00	5.00	5.90

Untested queens \$1.00 each.

Tested Queens \$2.00 each.

For queenless bees deduct \$1.00 each from above prices.

JACKSON APIARIES  
Funston, Georgia, U.S.A.

## QUALITY BRED ITALIANS

# York's Package Bees & Queens For 1949

The Strain Preferred By Leading Honey Producers

The past season has come and gone and we wish to thank you for your patronage. We are now working for the 1949 season, sparing no expense to provide you with package bees and queens that give the most in satisfaction. Our bees have won a national reputation with honey producers as the best foundation stock that can be obtained. Ask any of our customers. Order direct from this advertisement to save time. Order now to reserve your shipping date.

### PACKAGE BEES WITH YOUNG LAYING QUEEN

Quantity	1-24	25-99	100-up
2-lb. package	\$4.50 each	\$4.25 each	\$4.00 each
3-lb. package	5.50 each	5.30 each	5.00 each
4-lb. package	6.70 each	6.35 each	6.00 each
5-lb. package	7.80 each	7.40 each	7.00 each
Extra queens	1.40 each	1.30 each	1.20 each

For queenless packages, deduct price of queen. For tested queens, add \$1.00.

Only neat new cages are used for bees, certified bees from our own apiaries, state registered and state inspected. Package bees by express, queens not with packages by mail. We recommend 3-lb. packages as the best all-around size. Queens are young, bred from carefully selected breeder queens and mated to drones from selected queens. If convenient, small orders cash, larger orders \$1.00 deposit per package to insure shipping date. Shipments will begin as early as weather permits, usually about April 1. Help us to help you by booking your order now.

## York Bee Company : Jesup, Ga., U.S.A.

(The Universal Apiaries)

### Modern Beekeeping

The picture magazine of beekeeping. We show you with pictures how to do the job easier, quicker, and better. Special inventor's page.

1 yr. \$1.50; 2 yrs. \$2.50; 3 yrs. \$3.25

MODERN BEEKEEPING  
PADUCAH, KENTUCKY

### Canadian Bee Journal

Canadian beekeepers have much in common with their neighbors in the U. S. If you are interested in bee activities "North of the Border," send us your subscription NOW. Subscription price, \$1.25 per year in U. S. A.

### CANADIAN BEE JOURNAL

54 Bloor St. West, Toronto 5, Ontario

### AUSTRALIAN BEEKEEPING NEWS

The Leading Bee Journal of  
Southern Hemisphere is the

### AUSTRALASIAN BEEKEEPER

Subscription 8 shillings per year, start any time. Enquire for international money order for 8 shillings (Australian) at your Post Office. Write now to The Editor P. O. Box 26, West Maitland, New South Wales, Australia

### WESTERN CANADA BEEKEEPER

Subscription \$1.50 per year, \$2.25 two years, \$3.00 three years. In combination with American Bee Journal \$3.25 per year. Timely topics on western Canadian beekeeping and all the news about Canada and Canadian markets. You cannot afford to be without the most up-to-date information in these days of great changes. Sample copy free. Address WESTERN CANADA BEEKEEPER, 211 Affleck Building, Winnipeg, Manitoba, Canada.

— Advertise in the A-B-J —



## ITALIAN QUEENS & PACKAGE BEES Bred for Honey Production

Beekeeping is no side line with us. We operate 12 months a year devoting all our time to beekeeping. Being honey producers as well as package shippers, we have a chance to test our queens in honey production before they can qualify as breeders in the queen yards. We offer you a Resistant Strain of Italian bees, line bred in our Apiaries for honey production.

### YOUR SATISFACTION IS OUR SUCCESS

	1 to 9	10 to 49	50 to 99	100 up
2-lb. pkg. with queen	\$4.50	\$4.25	\$4.15	\$4.00
3-lb. pkg. with queen	5.65	5.40	5.30	5.00
Queens, daughters of tested breeders—				
	1 to 24	25 to 49	50 to 99	100 up
	\$1.35	\$1.30	\$1.25	\$1.20

Live delivery guaranteed.

## SOUTHLAND APIARIES, Ball, La., U.S.A.

Western Union, Alexandria, La. Tel., Alexandria Exchange 2-3293

### CAUCASIAN

### Package Bees & Queens

D. T. WINSLETT

1015 Sonoma Ave., No. Sacramento, California



# Classified Advertisements

## BEES AND QUEENS

ITALIAN PACKAGE BEES and queens. 2-lb. pkg. with queen, \$3.70; 3-lb. pkg. with queen, \$4.50. Queens \$1.10 each by air mail. Walter D. Leverette, Box 364, Fort Pierce, Florida.

JOE'S ITALIAN BEES AND QUEENS for spring delivery. 3-lbs. with queen, \$4.50; 4-lbs. with queen, \$5.25. Live delivery and health certificate guaranteed. No deposit necessary to book your order. Joe Roy Apiaries, Hessmer, Louisiana.

CARNIOLAN QUEEN BEES FOR 1949 spring delivery. Ephardt Honey Farms, Batchelor, Louisiana.

BREWER'S LINE-BRED CAUCASIAN QUEENS—Now booking orders for April 1st. Prices, 1-99, \$1.15; 100-up, \$1.00. Member of A.B.B.A. Brewer Brothers Apiaries, 3616 Caucasian Circle, Tampa 9, Florida.

GREEN'S PROFIT PRODUCING QUEENS won't fail you. They are backed by 22 years of breeding better queens. Start shipping about March 15th. Price 90c each. D. P. Green, Rt. 2, Deland, Florida.

BRIGHT YELLOW and three band queens. Graydon Bros., Rt. 2, Greenville, Ala.

CAUCASIAN, CARNIOLAN Package bees and queens, 1949. 2-lb. pkg., \$4.00; 3-lb. pkg., \$5.00. Untested queens, \$1.00 each. Tillery Bros., Greenville, Alabama.

THREE-BANDED ITALIAN bees and queens for 1949. Queens, \$1.00 each. 2-lb. pkgs. with queen, \$3.50; and 3-lb. pkgs. with queen, \$4.50. George O'Neill and Sons, Haines City, Florida.

GOLDEN ITALIAN PACKAGE BEES and select queens. Booking orders for 1949. Write for prices. Carolina Bee Farm, Graham, North Carolina.

BILL ATCHLEY'S famous bees, queens and nuclei—the best honey producing stock in the U. S. Untested queens, January, February and March, \$1.50 each; April, May and June, \$1.25 each. Four-frame nuclei with queen, bees, brood and honey, \$6.00 each, 2 in hive body. Will raise you full colonies in your equipment for June 1 delivery. Cheap if order early. Wm. Atchley, 500 E. 9 Street, Upland, California.

I HAVE PLENTY good Italian package bees at the following prices. 2-lb. pkg. with queen, \$4.30, express collect; 3-lb., \$5.25. Live arrival and satisfaction guaranteed. I give personal service, ample overweight, no drones, health certificate. For truckload lots write for prices. Your patronage appreciated. Deposit \$1.00 per pkg., balance ten days before shipping date, or you may send cash in full. S. J. Head, Crossett, Arkansas.

## HONEY and BEESWAX WANTED

WANTED—All grades comb and extracted honey, large or small amounts. Quote price in first letter. Mail sample. King Honey Co., 326 Bales St., Kansas City, Mo.

WANTED—Honey and wax—any quantity. Send samples and prices. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

WANTED—Quantity white, clear comb honey in 1 gal. tins. Mail sample, price. Simpkins, Indian Valley, Va.

WANTED—Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

HONEY AND WAX WANTED. Mail sample. Advise quantity. Bryant & Sawyer, 2425 Hunter St., Los Angeles, Calif.

## HONEY FOR SALE

CLOVER HONEY, No. 1 white extracted, 14,000 lbs., 14c lb. Sample 25c. Mrs. Grace Keister, Rt. 1, Monroe, Wisconsin.

COMB No. 1, white, \$7 per case; No. 2, \$5 per case of 24 sections. Amber extracted in sixties, 12c. Extra dark capping meltings, 8c per lb. H. G. Quirin, Bellevue, Ohio.

EXTRACTED HONEY. Lewis-Dadant Bee-ware. Harris Bee Supply, Jackson, Tenn.

NEW CROP OF HONEY shipped daily from producer in Florida. Pure orange blossom, 5-lb. pail \$2.25. Pure Florida cut comb honey, 5-lb. pail \$2.75. No. C.O.D. orders; all shipments prepaid. E. R. Raley, Box 1610, Daytona Beach, Florida.

CLOVER HONEY, No. 1, white extracted, 16c per lb. in 60's. Lose Brothers, 206 E. Jefferson, Louisville, Kentucky.

CLOVER HONEY in new 60-lb cans, 12c. Order from ad. Ohmrt Bee Farms, Dubuque, Iowa.

## FOR SALE

45-FR. ROOT EXTRACTOR in good condition, with the new speed regulator, \$140. Also a comb rack (merry-go-round) for 45 or 50 combs, \$30. Leo Basler, Box 283, Polson, Montana.

FOR SALE—200 or more of each, new standard all cypress 10-frame bottom boards nailed at \$1.35 each and new reversible cypress wood covers nailed at \$1.05 each. Also used 11-frame Dadant hives with metal cover, body and bottom board, no frames, at \$2.50 each. New frames for these hives, \$11 per hundred. New all brass Wheaton 1" hand operated valves with bottom fill spout, with 10 ft. 1" hose for honey packing, \$18.60 each. Folding steel steps for your truck, new, \$20.00 each. 110 volt AC electric power plants, 2500 watt. Ideal for lights and power for shop and extracting house. Used but A-1 condition, \$198.00. Again we are now building comb foundation machinery to order. Package bees and comb foundation for sale. Write us about your needs. No doubt we have something here you can use. Hyland Apiaries, West Elkton, Ohio.

300 COLONIES of bees, tanks, truck, enough equipment for 200 or more. 10-frame equipment. 65 eight-frame hives, one story empty. These 10-frame hives, 2 story. A. L. Walker, Rt. No. 2, Vacaville, California.

FOR SALE—Used clean 8-fr. supplies. Wanted—10-fr., empty. John Sueper, Webster City, Iowa.

35 COLONIES, supers and equipment, \$5.00 each. Buyer can make any inspection. Must be sold. H. V. Schoonover, Bath, Ill.

FOR SALE—200 beehives with extracting equipment. Details upon request. Guaranteed free of disease. H. L. Hancock, Rt. No. 1, Box 601, Ft. Pierce, Florida.

FOR SALE—90 gallon double boiler tank, fair shape, price \$18.00. Roy Baxley, Christopher, Illinois.

AMERICAN BEE JOURNAL from May 1919 to January 1949. Gleanings from January 1924 to June 1944. F. Storz, St. Marys, Iowa.

COMPLETE SINGLE HIVES. 700 supers. Two story colonies packed. Priced reasonable. Inspected. Leo Bear, Grand Forks, North Dakota.

FOR SALE—1500 2-story colonies of bees 900 nuclei. Excellent condition, absolutely no disease, you can get your money back from packages in spring. Some location goes with bees if wanted, will move bees any direction within 100 miles from Sacramento, California. Retiring from business. Will sell very reasonable. George J. Triphon, 505 Blackwood St., North Sacramento, California.

FOR SALE—1,000 colonies bees \$10.00 each. Truck and locations included. Liberal terms. Eugene Walker, Gridley, Calif.

SURPLUS—400 colonies in Florida, full of bees and honey. All or part. Suitable for package bees or honey production. Information on request. Box 1610, care American Bee Journal.

## POSITIONS AND HELP WANTED

POSITION WANTED by beeman. Experienced honey producer, queen breeder and inspector. No trifling. Box 19, care American Bee Journal.

WANTED—Single man to help operate 900 colonies of bees. Harold E. Gartner, Titonka, Iowa.

MAN TO OPERATE on shares with owner, one thousand hives. Most modern honey house and truck furnished. State age and experience in first letter. Begin work April 1. Lynn Taylor, Harlan, Iowa.

HELP WANTED—Experienced man to operate 500 to 1000 colonies. Choice territory, 1st class equipment. Permanent position. Write Box MS, care American Bee Journal.

WANTED for next season—Experienced man to handle apiary. Good opening for right man. West central states location. Write Box 85, care American Bee Journal.

WANTED—GOOD EXPERIENCED Queen breeder. Can make good offer to right man. Write American Bee Journal, Box E. R. C.

## SUPPLIES

YOUR WAX WORKED into quality brood foundation, 23c pound; 100 pounds, \$19.00. Fred Peterson, Alden, Iowa.

COMBINATION FEEDER feeds pollen substitutes and syrup at same time. Best feeder made. Write for details. E. W. Morgan, Berrien Springs, Michigan.

BEEHIVES, FRAMES, SUPERS. Standard lock-cornered hive bodies; strong, light frames. Satisfaction guaranteed. Price list free. Green Mountain Apiaries, Rt. No. 1, Box 200, Orchards, Washington.

LEWIS BEE SUPPLIES and Dadant's wired foundation. Prompt shipment from stock. Simeon B. Beiler, Intercourse, Pa.

OUR FREE BEE SUPPLY CATALOGUE. Lists double boilers, special motors, blowers, etc., not listed by others. We manufacture bee hives, wired and plain foundation, tanks and extractors, etc. Quick delivery from stock. Walter Kelley Co., Paducah, Kentucky.

CLEAN UP AFB with sulfa. 25 tablets 50c; 50, \$1.00; 100, \$1.50; 1,000, \$6.00. Free Circular, quick shipment. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

FOR SALE—25,000 mill run Lewis sections 3 1/2 x 5 x 1 1/4 scalloped 4 sides 1/2 inch at \$14.00 per thousand, f.o.b. Hamilton, Ill. Dadant & Sons, Hamilton, Illinois.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries. Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

HIVE BODIES, covers and bottom boards, bee shipping cages and nuclei hives. All supplies new and knocked down. Price list furnished on request. A & B Supply Company, Coffee Springs, Alabama.

## HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

**C. W. AEPPLER COMPANY**  
Oconomowoc, Wisconsin

## WANTED

WANTED—Several hundred hives of bees to place on vetch, clover, cotton, alfalfa locations, on shares. Trinity Valley Apiaries, Scurry, Texas.

## MISCELLANEOUS

NOVELTY SALT AND PEPPER SET. A pair of appealing bear cubs, each clasping a honey skep with his forepaws. Artistically designed. Also ideal for paperweights, home ornaments, or bee and honey display. They pay for themselves. 1 pair \$1.00; 2 pairs \$1.80; 3 pairs \$2.40. POSTPAID. Write for wholesale prices. TONTZ HONEY FARMS, Elsinor, California.

## DAIRY GOAT

DAIRY GOAT JOURNAL—introductory six month \$1—Columbia 2, Mo.

## RABBITS

NEW ZEALAND Red and Champagne rabbits. One of nation's top rabbitries. Circular. Tom D. McIlrath, Montezuma, Iowa.

## SEEDS AND TREES

Have you tried PELLETT CLOVER? Spreads by underground roots. Perennial, good honey plant. Root divisions, 25, \$2.00; 100, \$5.00; 250, \$10.00. Postpaid. Melvin Pellett, Atlantic, Iowa.

RAISE OUR OWN TREES and shrubs from seed for shade, windbreak, snow fence, etc. Write for free planting guide and price list. WOODLOT SEED CO., Norway 1, Michigan.

BIRD'SFOOT TREFOIL, hardy Northeastern grown, Certified Broadleaf, pound \$2.75 postpaid; inquire quantity price. LADINO CLOVER, Certified Blue Tag, \$3.00 pound, postpaid. Melvin Pellett, Atlantic, Iowa.

BASSWOOD TREES, ANISE-HYSSOP 2-year plants, HONEYSUCKLE, and VITEX shrubs. See ad page 50. Free illustrated folder describing 70 varieties honey plants, designating those best suited for your section. Niccollet County Nursery, St. Peter, Minnesota.

SEEDS OF HONEY PLANTS. ANISE-HYSSOP, ounce (20,000 seeds) \$2.00; SIMPSON HONEY PLANT, ounce \$1.00; CHAPMAN HONEY PLANT, 1/2-pound \$1.00; VITEX (incisa negundo), well ripened seed, ounce \$1.00, 1/4-pound \$3.00. Postpaid. Send for illustrated circular. Melvin Pellett, Atlantic, Iowa.

## HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

**C. W. AEPPLER COMPANY**  
Oconomowoc, Wisconsin

You read the A-B-J Ads—  
so do plenty of others

January, 1949

# PLANT'S PRODUCTIVE VIGOROUS ITALIANS GENTLE AND EASY TO HANDLE

In producing honey in the North we learned what should go into good packages and queens before coming South to raise them.

Now as for years our first consideration is to give the quality and service we would like to receive if we were still on the receiving end.

	1 to 4	25 to 99	100 or more
2-lb. package with queen	\$4.50	\$4.25	\$4.00
3-lb. package with queen	5.60	5.30	5.00
4-lb. package with queen	6.70	6.35	6.00
5-lb. package with queen	7.80	7.40	7.00
Extra queens	1.40	1.30	1.20

For queenless packages, deduct price of queen

Never any disease in our queen or package yards. Health certificate with each shipment. Safe, full weight arrival. Satisfaction guaranteed.

## W. E. PLANT

Rt. 2, Hattiesburg, Mississippi

## PACKAGE BEES—QUEENS

Now booking orders for this high producing strain of LEATHER COLORED ITALIANS. Queens are reared direct from the egg (not grafted or disturbed), produces more vigorous queens, less supersedure. Order early for choice dates. All packages are young bees and overweight.

We start shipping March 15th. 20% books you.

	1-9	10-49	50-up
Queens	\$1.30	\$1.25	\$1.20
2-lb. packages with queens	4.50	4.30	4.10
3-lb. packages with queens	5.60	5.40	5.20

For queenless packages deduct price of queen.

## NOVINGER APIARIES

Oxford, Florida

## A CONTEST FOR EVERYBODY—ANYBODY—EVERYWHERE

Who sends an order for 10 DR queens. Just complete this sentence in not more than 25 words:

"I like DR. queens because....."

CONTEST CLOSES MAY 1, 1949—AWARDS JUNE 1, 1949

1st prize—25 DR queens; 2nd prize—15 DR queens; 3rd prize—10 DR queens; Next 5 prizes—1 year's subscription to your favorite beekeeping magazine. Judges announced next month. Write for our NEW REDUCED PRICES.

## IOWA BEEKEEPERS' ASSOCIATION

STATE HOUSE, DES MOINES, IOWA

## ELECTRIC UNCAPPING KNIFE

This knife heats in 15 seconds and operates with a steady heat regulated by an adjustable thermostat in the handle. No control boxes. New design in plastic handle. 110-115 V. AC only. Cotton Cord \$13.50 while they last. 6-ft. rubber cord \$15.00.

## MACY ELECTRIC KNIFE COMPANY

1239 S. LORENA ST.

LOS ANGELES 23, CALIFORNIA

## Three-Banded Italian Queens of Highest Quality

PACKAGE BEES AND 5-FRAME NUCLEI READY MARCH 1ST.  
PRICE LIST ON REQUEST.

E. R. RALEY

Box 1610, Daytona Beach, Florida

# HONEY GIRL APIARIES

## Package BEES and QUEENS When You Want Them

### ITALIAN BEES AND QUEENS

	Queens	2-lb. with queens	3-lb. with queens	4-lb. with queens	5-lb. with queens
1-24	\$1.40	\$4.50	\$5.60	\$6.70	\$7.80
25-49	1.30	4.25	5.30	6.35	7.40
100-up	1.20	4.00	5.00	6.00	7.00

For price of queenless packages, deduct the price of the queens

W. E. CASE, Proprietor : Moreauville, Louisiana

### TREES AND SHRUBS

- **Basswood Trees—American Basswood** (*Tilia americana*)  
Basswood blended honey is known to have the mildest aroma and flavor of them all. SEEDLINGS: 12-18 in., per 50, \$8.75; 18-24 in., per 50, \$10.00; 2-3 ft., per 50, \$15.00; 4-5 ft., each \$1.50; 5-6 ft., each \$1.75; 6-8 ft., each \$2.25; 8-10 ft., each \$3.00. F.O.B. St. Peter, Minnesota. By mail, five 12-18 in. for \$1.20; four 18-24 in. for \$1.20; two 2-3 ft. for \$1.20 postpaid.
- **Cordata Basswood, or Linden** (*Tilia cordata*)  
30-36 in., \$2.00 each postpaid.
- **Pyramidal Basswood** (*Tilia pyramidalis*) 70 ft.  
Only in sizes 5-6 ft., \$2.75 each; 6-8 ft., \$3.75 each, F.O.B. St. Peter.
- **Anise-Hyssop Plants**  
The longest and the most free to bloom bluish bee plant we have. June until frost. 2 year old plants, 5 for \$1.20; 20 for \$4.20 postpaid.
- **Shrubs—Pink Tartarian Honeysuckle** (*Lonicera tartarica rubra*)  
The best hedge—windbreak for your bees. A 12-foot high row, full of May bloom and bees when your field bee build-up needs it the worst is worth your effort. 12-18 in., per 50, \$9.50, by express; 3 for \$1.20, postpaid; 18-24 in., per 50, \$12.00 by express; 4 for \$1.20 postpaid; 2-3 ft., per 50, \$16.50 by express; 3-4 ft. per 50, \$24.50 by express; 2 for \$1.20, postpaid.
- **White Tartarian Honeysuckle** (*Lonicera tart. alba*)  
Same price as pink honeysuckle, only in two smaller sizes.
- **Marrowii Honeysuckle** (*Lonicera marrowii*)  
Same price as pink honeysuckle, all sizes.
- **Zabelli Red Honeysuckle** (*Lonicera tart zabelli*)  
12-18 in., per 50, \$10.50, by express; 4 for \$1.20 postpaid; 18-24 in., per 50, \$14.50, by express; 3 for \$1.20, postpaid; 2-3 ft., per 50, \$18.50 by express; 3-4 ft., per 50, \$27.50, by express; 2 for \$1.35 postpaid.
- **Chinese Vitex** (*Vitex macrophyllus*)  
An improved variety. 8-10 in., 3 for \$1.20, postpaid; 12-18 in., 2 for \$1.20, postpaid; 18-24 in., 2 for \$1.30 postpaid. Order from this ad. Supply limited. Order now. Get our complete list of honey plants for south and western U. S. Prompt moss-packed shipments from our cellars when you are ready to plant.

NICOLLET COUNTY NURSERY, St. Peter, Minnesota

### BLUE RIBBON

#### Package Bees and Italian Queens

Booked full to April 20th.  
Write for prices.

### FOSTER APIARIES

COLUSA, CALIFORNIA

Successor to Thos. C. Burleson

### McCORD FRAME-GRIP



Patent Pending  
A light weight, handy instrument used for loosening and removing frames from the hive with one hand. Price \$2.50, plus 15¢ postage fee. Shipping weight 12 oz. Satisfaction discounts for dealers.

McCORD MFG. CO.

RT. 2, BOX 866, SAN JOSE, CALIFORNIA

CHOOSE LABELS WISELY—  
A-B-J LABELS GET RESULTS

# PACKAGE BEES with Queens

MAY WE RESERVE THE DATE YOU DESIRE FOR YOUR SHIPMENT?

## ITALIANS

	Queens	2-lb. with queens	3-lb. with queens	4-lb. with queens	5-lb. with queens
1-24	\$1.40	\$4.50	\$5.60	\$6.70	\$7.80
25-49	1.30	4.25	5.30	6.35	7.40
100-up	1.20	4.00	5.00	6.00	7.00

For price of queenless packages, deduct the price of the queens

## SUNNY SOUTH APIARIES

MARKSVILLE, LA.

I. CLARK, Prop.



# Beeware's\* 1949 Contribution to Better Beekeeping

## The "Lev-L-Drain"\* Bottom Board

IT  
LEVELS

Patented



IT  
DRAINS

- ★ It Levels Your Hive.
- ★ It Causes Moisture To Drain.
- ★ It Reduces the Bees' Work.  
(They build less ladder wax.)



**START THE NEW YEAR RIGHT!**  
**USE BEEWARE'S\* WINNING COMBINATION—**  
**THE "I-V"\* COVER AND THE "LEV-L-DRAIN"\* BOTTOM.**

Contact your nearest Lewis-Dadant Dealer.

You will be pleased with his service.

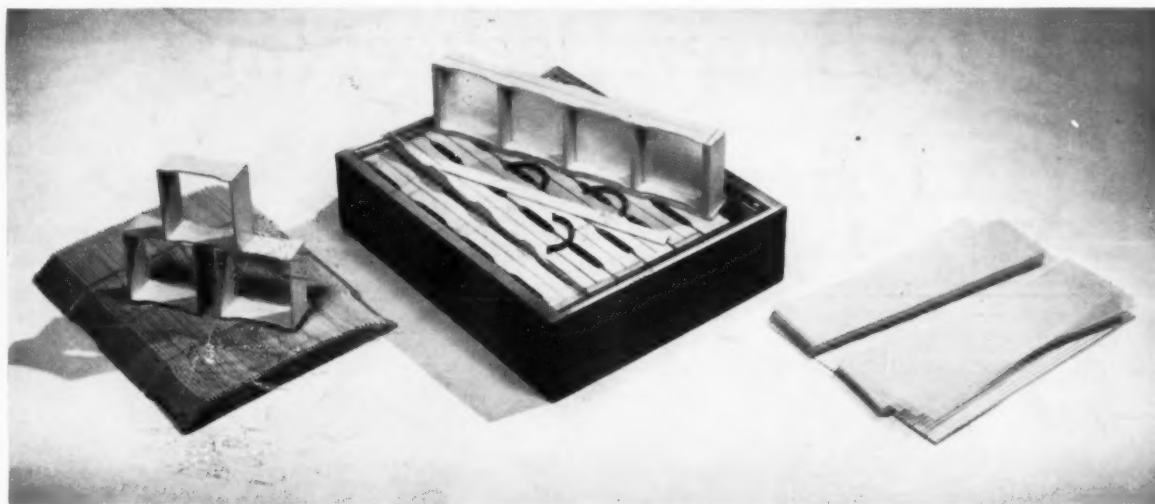
For further Beeware\* information write us.

**G. B. LEWIS COMPANY : Watertown, Wisconsin**

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*When It's Comb Honey Equipment*  
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## THINK OF ROOTS

**SECTIONS**—Made from select basswood—round V-groove at bottom insures good folding—dovetail corners that are tight—Split sections permit rapid insertion of foundation.

**THIN SUPER FOUNDATION**—Made from light capping beeswax—true comb base assures quick acceptance by the bees.

**SECTION SUPERS**—We stock Beeway supers for  $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{7}{8}$  inch sections and plain supers for  $4 \times 5 \times 1\frac{3}{8}$  inch sections. Complete ready to assemble. Also parts for all section equipment.

**WINDOW CARTONS**—A package that will do justice to your fine comb honey. Keeps honey clean. Protects honey from breakage. Quick to pack.

A COMPLETE LINE OF BEE SUPPLIES

**THE A. I. ROOT CO.**

MEDINA, OHIO

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